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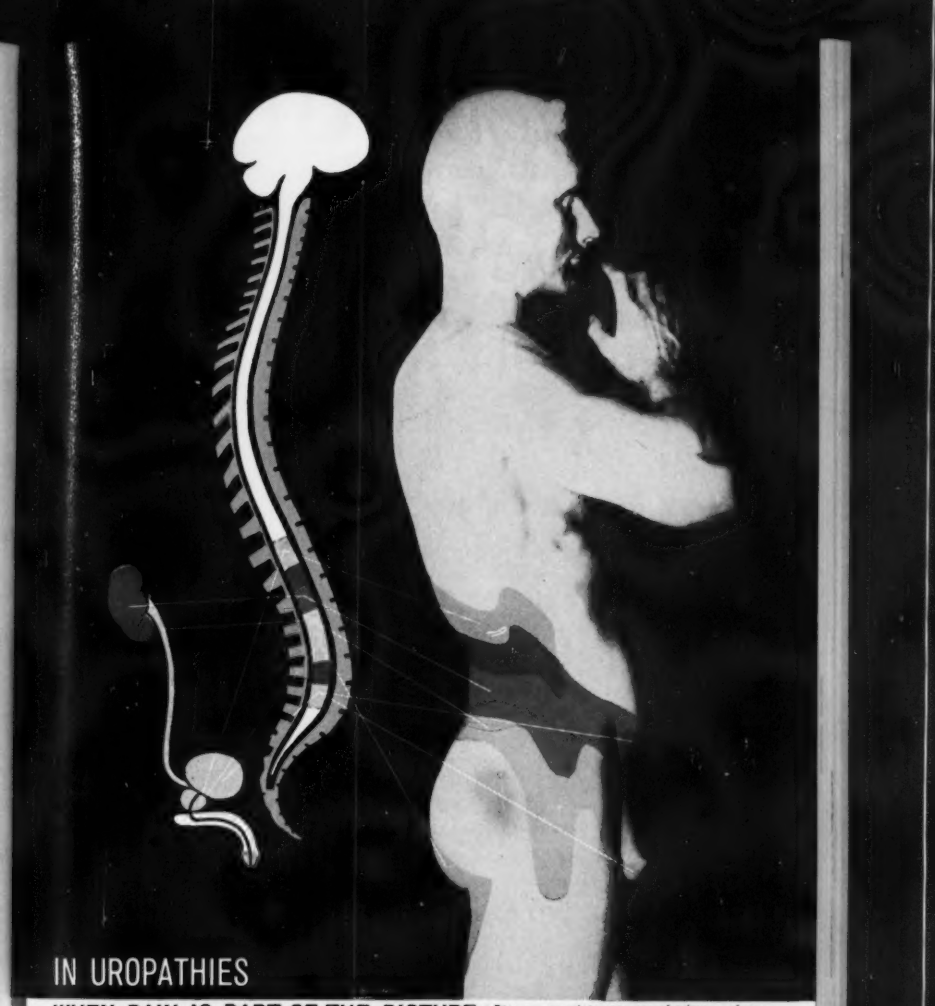
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References: 1. W. Schaltek, G. A. Heise, E. F. Keith and R. E. Bagdon: **J. Pharmacol. & Exper. Therap., 126**:270, 1959. 2. O. C. Brandman, paper read at Colloquium on the Pharmacological and Clinical Aspects of Tigan, New York City, May 15, 1959. 3. I. Roseff, W. B. Abrams, I. Kaufman, L. Goldman and A. Bernstein: **J. Newark Beth Israel Hosp., 9**:189, 1958. 4. W. B. Abrams, I. Roseff, I. Kaufman, L. M. Goldman and A. Bernstein, **New York J. Med., 59**:4217, 1959. 5. O. Brandman, **Gastroenterology, 38**:777, 1960.

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How Many of Us Are Malnourished?

JAMES M. NORTHINGTON, M.D., *Editor-in-Chief*

►*There is no convincing evidence that any considerable part of the people of the United States is undernourished. Studies which have proported to show that several million people were inadequately nourished were not conducted in such a way that their conclusions can be regarded as valid.*◄

Many misleading statements have been made regarding the prevalence of malnutrition in this country. Several years ago, a director of the U.S. Public Health Service said that "studies of family diets by the Department of Agriculture in all income groups in the nation show that one-third of our people are getting food inadequate to maintain good health," and "less than one-fourth of us are getting a good diet."

These "studies" were made of 4000 urban and village families of various income levels and of some 2000 rural families, and consisted only of reports of how much they spent for food and what kind of food they consumed. The surveyors took the people's word for all these alleged facts. The surveys did not indicate the amount of food eaten or wasted, and no physical or medical examination was made of the members of these families.

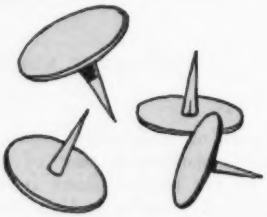
These and more recent statements as to our nourishment are greatly exaggerated and entirely unreliable. The causes for such malnutrition as does prevail are numerous and complex. It should be obvious to all that every meal every day does not need to be vitamin-balanced, because our body stores take care of urgent needs for weeks or months unless we have subsisted on the minimum for some time.

The concept of Claude Bernard, propounded in 1859, of "the maintenance of constant internal environment," is one of the most important advances in modern medicine. Cannon elaborated this concept in his book, "The Wisdom of the Body." Both these great physiologists proved by elaborate experiments that a

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close relationship exists between appetite and dietary needs, and that all animals, including the human, make beneficial selections from natural and purified articles of food when given an opportunity.

Thirty years ago an intelligent and well-controlled investigation[1] into the results of diets self-selected by newly-weaned infants led to the conclusion that, when a great variety of ordinary wholesome food was set before these infants they were able, from the first, to select their own foods, and would take them in such quantities and varieties as to maintain themselves, with optimal digestive and nutritional results. They were omnivorous, showed preferences which changed from time to time in an unpredictable way, but always with excellent results as shown by the maintenance of the child in health.

Apparently nutritionists, public school nurses, and a considerable number of physicians, have yet to learn of the discoveries of Mendel regarding the laws of heredity. The belief in the infallibility of height and weight figures for a child of any certain age is not as strongly and as generally held as was the case 20 years ago. But it is today a potent influence for mischief. A child came home from school with a report from the nurse that she was 10 pounds or so too light, with the intimation that something should be done about it. What that nurse did not know was that this child is a perfectly healthy specimen, has always been an "A" pupil, feels well, sleeps well, plays well—and eats more in quantity and variety than any other child in the family. Nor did the nurse know that, according to Mendel's well-established laws of heredity, in a family of children with ancestors half long and half short, the great likelihood is that there will be one short and one long child to every two children of medium height. This child looks like, talks like, and takes after a small-of-stature grandparent.

It is important that we learn the things that good nutrition cannot do as well as learn what it can do. We know of no convincing evidence that two-thirds, a half, a third, or any considerable fraction of our population is inadequately nourished; and we challenge any "researcher" or "nutritionist," in or out of governmental employ, to adduce evidence to the contrary.◀

1. Davis, Clara M., M.D., the Pediatric Service, Mt. Sinai Hospital, Cleveland.

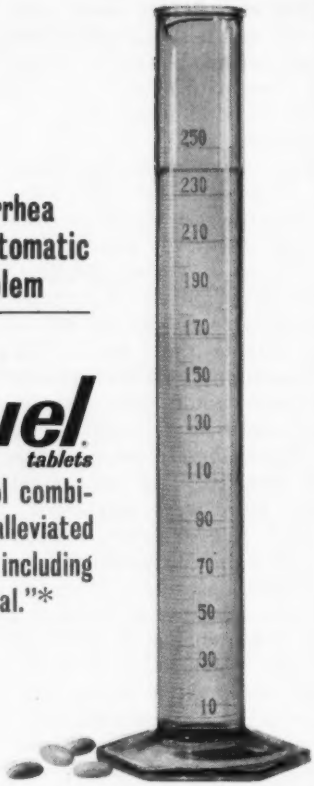
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original article

Practical Approach to Surgical Therapy for Chronic Pancreatitis

RALPH F. BOWERS, M.D.,* *Memphis, Tennessee*

►*Chronic pancreatitis is controlled in 70 to 90 per cent by biliary tract surgery. Others require sphincterotomy, choledochojejunostomy, pancreatojejunostomy, or marsupialization. Caudal pancreatojejunostomy is best when infection is burned out. Medical treatment of chronic cases is not beneficial.*◄

After much experience with varying therapeutic methods for acute pancreatitis, there is crystallizing in the minds of internists and surgeons a stereotyped plan which appears to be more acceptable with each passing year. This plan recognizes merit in the conservative medical management, promptly initiated after early accurate diagnosis, including continuous gastric suction. With the greatly reduced amount of gastric juice, the stimulation of the pancreatic enzymes is less demanding, and therefore the pancreas is also put to rest. Fluid and electrolyte balance, with the administration of calcium, are important adjuncts. Calcium is lost to the body in the saponifying process and must be replaced. Antibiotics are extremely important as bacterial infection invariably follows the chemical peritonitis. The great loss of fluid and blood causes shock which requires vigorous measures. This regimen has resulted in a 2.9 per cent mortality rate (one death in 34 cases).

*From the Surgical Service, Veterans Administration Medical Teaching Group Hospital.

Theories of Causation

Only occasionally does one see a patient in the chronic phase who gives no history of an acute attack. From a practical viewpoint three causative conditions are pondered: the bile regurgitation theory, obstruction to the pancreatic duct, and compromise of the blood supply to the pancreas. Perhaps all three contribute. Alcoholic indulgence makes the attacks more frequent and severe. One must accept the

frequent association of biliary tract disease and pancreatitis; some report this association in 70 per cent of the cases. It is sensible then to consider the advantage of the surgical correction.

Bile enters the pancreatic duct normally and probably more frequently than many of us realize. This happens even without the "common channel," a situation created by the entrance of a pancreatic duct into the common duct proximal to the ampulla of Vater. When this condition exists, and the sphincter of Oddi undergoes spasm, bile will flow into the pancreatic duct. The anatomic relations of the more normal pancreatic and biliary ducts at the ampulla are conducive to bile regurgitation when the sphincter goes into spasm, as demonstrated by cholangiogram and pancreatogram. But no one knows what changes of the bile in the pancreatic duct invoke the explosion of infection. It has been suggested that some unknown substance works changes in the bile which cause the development.[1] The simplest way to produce hemorrhagic pancreatitis in an animal is to put bile into the pancreas or pancreatic duct under pressure. Pancreatic juice is activated when bile mixes with it, but this alone cannot produce the infection. Experimental and clinical evidence suggests that if bile is not allowed to enter the pancreatic duct, then pancreatitis may be controlled or future attacks prevented.

It is my opinion that obstruction of the pancreatic duct is not the cause of the early attacks, but that later, after several attacks, strictures of the duct occur, and at that time attacks may persist because of this new obstruction. As time progresses, there is atrophy of all elements in the pancreas which results in steatorrhea, mild diabetes, constant upper abdominal pain with anorexia and cachexia. Now, weight loss is great because the patient cannot take food without inducing pain. Serum amylase values are usually low and the condition called "the burnt out" stage, with good reason.

Plan of Therapy

With these thoughts in mind then, one may be in position to suggest a therapeutic plan. Vigorous efforts must be made to stop the attacks and prevent the condition reaching the burnt out stage.

Occasionally a laparotomy will be performed when the condition cannot be differentiated from perforated ulcer, intestinal obstruction, or acute cholecystitis. If the abdomen is opened, one

1. Rich, A. R., & Duff, G. L., *Bull. Johns Hopkins Hosp.*, 58:212,1936.

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should correct any gallbladder disease present. Cholecystectomy, choledochostomy, common duct stone removal, or simple cholecystostomy may be employed, as indicated by conditions, local and general. If cholecystostomy is done, all gallbladder stones should be removed if possible.

No extensive and rough exploration should be done. If pancreatic abscess (very rare) is found, drainage should be instituted through an opening in the gastrocolic omentum, but if no softening of the pancreas is found, prompt closure of the abdominal incision is in order, with introduction of the medical measures described above.

After the Acute Attack

When the acute attack subsides, or no operation has been done during that attack, x-ray studies of the upper gastrointestinal tract and gallbladder are made. If gallbladder disease is manifest, within a short period of time (one to two months), definitive surgery should be done which includes exploration of common duct, removal of stones and dilatation of the ampulla of Vater, and insertion of a T-tube (to be removed at three months). Proper T-tube irrigations are done by the patient. If the patient has no attacks, or if an attack ceases when the T-tube is permitted to drain, then one may expect control of attacks by an internal bypassing operation, i.e., one which will not allow bile to enter the pancreatic duct.

We can expect 70 per cent of the patients with pancreatitis and gallstones to enjoy a disappearance of the pancreatitic attacks by biliary tract surgery alone. This figure has been placed as high as 94 per cent.[2] Many patients who have gallstones are alcoholics. Most of our cases have been in persons who used alcohol abnormally. Gallbladder surgery and cessation of use of alcohol will yield excellent results if gallstones are present. Cholangiography is not indicated at the time of operation. It is done later *via* T-tube injection.

Considerations As to Operation Later

If no acute attacks happen after the first attack, and biliary tract disease has been controlled by operation, nothing is done. If acute attacks appear now, the indication for definitive surgery arises. At this point, one suggests the operation according to his ideas concerning the etiologic process. Two researchers were the first to use surgery at this point, and sphincterotomy was their choice procedure.[3] They de-

2. Howard, J. M., & Jordan, G. L., Jr., *Arch. Surg.*, 73:960,1956.
3. Doubilet, H., & Mulholland, J. H., *Surg. Gynec. & Obst.*, 86:295,1948.

sired prevention of bile regurgitation into the pancreatic duct and believed that spasm of the sphincter of Oddi produced the regurgitation. Absence of this spasm would not permit the regurgitation. Experimental proof has been presented which strongly suggests the inadequacy of sphincterotomy to accomplish this.[4] The success rate of sphincterotomy is not known. The gallbladder surgery may be performed at the same time and it is impossible to be sure which procedure in a series of maneuvers has accomplished the task.[5] A review of many reports indicates that the control rate by sphincterotomy ranges somewhere between 40 and 60 per cent. It has been repeatedly stated that the attacks will persist in the alcoholic in spite of sphincterotomy.[6]

Inasmuch as the control rate is low with sphincterotomy, a more certain method was sought. It is postulated that a diversion of the bile to a distant part of the gastrointestinal tract would certainly prevent attacks by disallowing bile regurgitation. For this purpose choledochojejunostomy[7] en Roux Y (Fig. 1), i.e., transection of the common duct, ligation of the distal end of the common duct, and anastomosis of the proximal end of the common duct to the distal end of the transected jejunum in an end-to-end fashion serves well. No one likes to cut across the common duct and the danger of common duct stricture is recognized. But the disease is distressing, disabling, and finally death-dealing if control is not obtained. Choledochoduodenostomy is used[8] and a side-to-side anastomosis is occasionally used.[9] Some[9-11] have reported successes, and others[12] experienced failures with choledochojejunostomy.

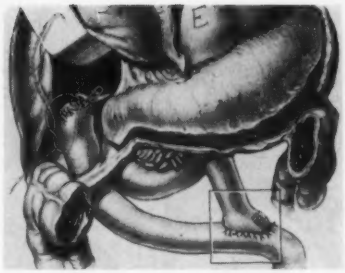


FIGURE 1

CHOLEDOCHOJEJUNOSTOMY

Results

In this series of cases there were 21 successes and four failures. As much as a year's time must elapse before labelling the

4. Eiseman, B., et al., *Arch. Surg.*, 79:294, 1959.
5. Doubilet, H., *Am. Surgeon*, 24:205,1958.
6. Doubilet, H., Disc. before the New York Surgical Society, November 12, 1958.
7. Bowers, R. F., *Surgery*, 35:159,1954.
8. Walters, W., *J.A.M.A.*, 160:425,1956.
9. Poth, E. J., *Surgery*, 15:693,1944.
10. Allbritten, F. F., Jr., *Arch. Surg.*, 67:779, 1953.
11. Trimble, I. R., Disc. in Longmire, W. P., Jr., et al., *Ann. Surg.*, 144:681,1956.
12. Rousselot, L. M., et al., *New England J. Med.*, 250:268,1954.



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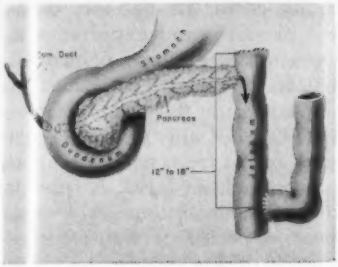


FIGURE 2

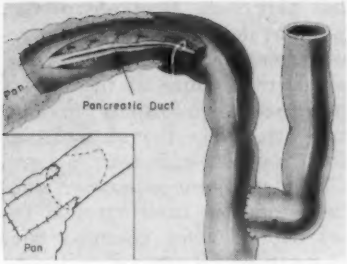


FIGURE 3

DISTAL PANCREATICOJEJUNOSTOMIES

result a success or failure. One patient experienced mild pain for three years and none for the last five years—certainly a successful result.

Two failures were probably the result of poor selection—they were too far into the burnt out stage to expect recovery by a shunting operation. All failures were in severe alcoholics, but several patients have remained heavy drinkers without attacks. These successes have not been enjoyed by the sphincterotomists, caudal operations or nerve-cutting surgeons. Eighty-four per cent have been controlled and 16 per cent have failed.

If one believes that obstruction of the pancreatic duct is responsible for the disease, he will employ one of the caudal pancreaticojejunostomy procedures (Fig. 2 and 3). Some[13,14] have failed to achieve control by these operations, while others[15] modified the procedure by draining a larger area of duct (Fig. 3) and state that better results are obtained, although late followup results are not available at the time of this writing.

One scholarly work suggests that the caudal operation is indicated only when pancreatic duct obstruction is present, but does not believe it is useful during the stage of recurring acute attacks.[16,17] Many patients with chronic pancreatitis do not always show pancreatic duct obstruction.[16-18] One of our failures at autopsy showed an acute flare-up of acute pancreatitis in addition to chronic infective changes,

13. Longmire, W. P., Jr., & Wallner, M. A., *Surgery*, 40:412,1956.
14. Jordan, G. L., Jr., & Howard, J. M., *Surgery*, 44:305,1958.
15. Puestow, C. B., & Gillesby, W. J., *Arch. Surg.*, 76:898,1958.
16. DuVal, M. K., Jr., *Surgery*, 41:1019,1957.
17. DuVal, M. K., Jr., *Ann. Surg.*, 140:775, 1954.
18. Poth, E. J., & Wolma, F. J., *Am. Surgeon*, 20:270,1954.

but pancreatic duct obstruction was not demonstrated. Some researchers[6,16,17] are distressed about the failure of the caudal pancreaticojejunostomy to control attacks in the alcoholic or the narcotic-addicted patient. Choledochojejunostomy or duodenostomy is used by two researchers[19] when common duct obstruction is present and they will occasionally use caudal pancreatic excision, partial pancreatectomy (Whipple procedure), or total pancreatectomy, the latter two procedures being reserved for patients whose attacks have not been controlled by one or more less radical efforts. Resection if simple measures have failed has been advocated.[20]

Pseudocysts

These are the result of rupture of pancreatic tissue with spill of the pancreatic juice into the pancreas and peripancreatic tissue. Many are temporary and spontaneously disappear presumably when drainage of the fluid into the pancreatic duct is reestablished. Only a few fail to disappear and many small pseudocysts never attract attention.

When the cyst remains, it causes pressure symptoms, depending upon the location; in many cases the patients cannot eat properly and experience the eventual dire effects of poor nutrition. Pancreatitic attacks can appear while the pseudocyst exists, but not always. These cysts may result from trauma and are not epithelium-lined. As pseudocysts may spontaneously disappear, a period of waiting is advisable. These cysts may be seen in any part of the pancreas.

When it is obvious that the cyst will not disappear, the following operations may be employed:

1. Excision. The best procedure can safely be performed only if the cyst is in the tail and does not require major surgical manipulation of important surrounding structures. I have excised five pseudocysts with excellent results.[21]

2. Cystgastrostomy or cystenterostomy. These are probably the best safe procedures available. They demand anastomosis of the cyst to the stomach or jejunum sometimes in the manner of the Roux Y maneuver. It has been successful each time in our hands and no disastrous or disappointing results are reported in the literature. These are shunting procedures and not too difficult.

Occasionally, one encounters the cyst at the time of the defini-

19. Cattell, R. B., & Warren, K. W., Surgery of the Pancreas, W. B. Saunders Co., Philadelphia, 1953.
20. Porter, M. R., Discussion before the New York Surgical Society, November 12, 1958.
21. Bowers, R. F., *J. Kentucky M.A.*, 55:511, 1957.

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tive procedure (e.g., sphincterotomy, choledochojejunostomy). One author[22] does nothing to the cyst at that time and states that sphincterotomy is all that is necessary. However, colleagues do not share this viewpoint. If the cyst is small and has not been there a long time, it is probably wise not to touch it, but to perform the definitive procedure and wait for spontaneous disappearance of the cyst.

I have encountered two pseudocysts in the pancreatic head at the time of choledochojejunostomy. One was simply drained and disappeared after many months of drainage. The other was successfully drained by forcibly inserting a curved clamp into the cyst through the wall of the distal common duct.

3. Marsupialization. This is ostensibly an external drainage procedure, accomplished by suturing the wall of the opened cyst to some structure in the abdominal wall. However, the cyst is often too small and too deeply located for accomplishment of this suturing and then simple external drainage is performed. Pancreatic fistula develops which may drain for a long time, and recurrences have appeared.

Marsupialization is not the best operation for pseudocyst, but may be the only operation that can be safely done.

22. Doubilet, H., Discussion at the Postgraduate Course in Surgery, Kansas City, Kansas, May 19, 1959.

Burnt Out Pancreas

There is much confusion about this stage although all experienced pancreatic surgeons recognize it and are on talking terms about it. The recurring acute attacks have ceased and there are ductal calculi, calcification of the gland, marked fibrosis, and fewer islets of Langerhans. Therapy at this stage accomplishes the least.

Relief of pain by the use of sympathectomy has been reported[23] and it has been repeatedly stated[24] that relief of pain and control of attacks have been had after celiac ganglionectomy. Sympathectomy has not proved to be satisfactory. Pain is much relieved but the infection is unchanged. It is in this stage that subtotal and total pancreatectomy may prove to be the only worthwhile operative procedures, but these operations have high mortality and morbidity rates.

The problem today remains—what can be done for the patient who has failed after biliary tract surgery or in whom biliary surgery was never indicated? Twenty years ago, only a few were relieved. Sphincterotomy is not the safe, easy operation that

23. Ray, B. S., & Console, A. D., *Surg. Gynec. & Obst.*, 89:1,1949.
24. Grimson, K. S., Discussion in Bowers, R. F., *Surgery*, 30:116;145,1951.

one may think. Choledochojejunostomy en Roux Y has been successful in 84 per cent of the otherwise uncontrolled patients, is accompanied by a low morbidity rate in our hands and no mortality. Patients have been followed as long as 10 years. Four failures, all excessive alcoholics, were patients whose attacks were lessened in severity and number. Two have died since, one from a burn and another from pseudocyst with recurrent pancreatitis. One patient has recently developed a gastric ulcer requiring surgery but is cachectic, weak and will probably die from the pancreatitis. The remaining 22 patients are considered well controlled; however, five successfully treated, died later of unrelated causes. Autopsies on controlled patients dying many years later failed to show significant pancreatitis except in one instance when the pathologist found slight fibrosis.

Pancreatic Stones or Calcification

As elsewhere in the body, stones may be present in a duct or organ and produce no symptoms throughout a lifetime. Whether the stones always result from infection is questionable—if so, why have not symptoms appeared in all of these patients? There is no reason to operate simply because the stones exist, but to treat the pancreatitis if it is present as outlined. If the stone is in a markedly obstructed pancreatic duct, the stage of the disease will probably approach the burning out phase when the caudal operation is more applicable, and here pancreatic-splitting to explore the duct for an enveloping pancreatojejunostomy is probably indicated. If the stones alone are removed, failure can be anticipated. One must treat the pancreatitis in addition to the stone removal. Several patients controlled by choledochojejunostomy still are asymptomatic with pancreatic calcification.

Management

A calendar for the treatment of chronic pancreatitis suggests the following outline:

1. Medical treatment is not beneficial.

2. Biliary tract surgery always should be done if gallstones or serious biliary tract infection accompanies the pancreatitis. One can expect 70 to 90 per cent control from these commonplace procedures.

3. If attacks return after biliary tract surgery or when this surgery has not been indicated, then:

a. Sphincterotomy should control in 40 to 60 per cent.

b. Choledochojejunostomy

should control in 75 to 85 per cent.

c. It is hoped that caudal pancreatojejunostomy will control a high percentage because these operations should prove easier and safer than sphincterotomy or choledochojejunostomy.

d. If pseudocysts occur and do not spontaneously disappear after a planned waiting period, marsupialization or cystgastrostomy or enterostomy, the latter with the Roux Y principle, are very successful procedures if excision for those located in the tail cannot feasibly be done.

e. As the infection approaches the burned out stage and leaves the stage of recurring acute attacks, all indications point to the use of caudal pancreatojejunostomy in some form as the best procedure.◀

Cerebral Claudication

It is now recognized that a stroke is a symptom rather than a disease, and that brain tumors, vascular malformations and occlusions of the cervical carotid and vertebral arteries produce similar symptoms. Therapy is directed at the etiologic agent.

Special attention has been directed at lesions producing cerebral ischemia by obstruction in extracranial carotid or vertebral vessels. In 9 patients with positive operative findings, 6 had only partial obstruction, with patent internal carotids. Four had complete remission of symptoms and have returned to their previous activities. One was relieved of his unilateral weakness and numbness, but has not been able to return to full time work; one is considerably improved after a hemiplegia persisting for 7 months before being operated on.

In all the murmurs have disappeared and the effects of digital compression of the contralateral carotid have cleared or greatly diminished. In 3 cases of completely occluded vessels, in only one was the internal carotid distal to the obstruction cleared enough to produce a fairly good back flow. This person is back at work, considerably improved. In the favorable group there has been no evidence of recurrent symptoms.

Sclerosis of arteries to the brain is one of the causes of strokes. Diagnosis can be made largely in the office or at the bedside, by careful examination directed at the carotid arteries. Therapy has consisted in removing or bypassing the long-standing obstruction. It is probable that similar procedures should be applied early in case of more acute strokes.

Cameron, J. M., & Till, H. J., *J.M.A. Alabama*, 29:424-433,1960.

Topical Treatment of Acute and Chronic Diaper Rash with Amino Acid Creme

JOSEPH R. CHRISTIAN, M.D.,* and
FLORENTINO GONZALEZ, M.D., *Chicago, Illinois*

▶*Of 36 patients, ranging in age from 5 days to 2 years, treated for diaper rash by application of a protein hydrolysate in a water-soluble ointment, 30 obtained complete or almost complete remission from mild to severe erythema. The administration of methionine inhibited formation of the characteristic ammonia.*◀

Diaper rash is a localized reaction of the skin in the area involving the lower abdomen, the genitalia, the lower lumbar region, the gluteal areas and the inner aspect of the thighs. The anal and the peri-anal areas are not usually involved. Although closely related, intertrigo can be readily distinguished from diaper rash.

The skin lesions of diaper rash are erythema, papulovesicles, or in severe cases an umbilicated secondary ulceration of the papulovesicular lesion with surrounding erythema.

Of the many methods of therapy attempted, none has given consistently favorable results. There have been recent reports on the role of amino acids as a dietary supplement in the treatment of diaper rash[1] and as a topical therapeutic agent in the treatment of pruritus ani.[2] It is the purpose of this paper to report the results of the topical use of amino acids in the treatment of acute and chronic diaper rash.

Material and Methods

Patients with diaper rash, of both sexes, ranging in age from five days to two years were selected for study. Patients with dermatoses caused by congenital and hereditary anomalies or defects and patients with fungus, parasitic or viral infections were excluded. Patients receiving oth-

*From the Department of Pediatrics of Mercy Hospital, Lewis Memorial Maternity Hospital, St. Vincent's Hospital, St. Joseph's Hospital and the Stritch School of Medicine of Lovola University, Chicago.

1. Goldstein, L. S., *Clin. Med.*, 59:455-458, 1952.
2. Levine, A. J., et al., *Gastroenterology*, 35: 409-413,1958.

er local therapy, and also those followed for less than three days, were also excluded from this study.

Tubes containing a placebo creme or an amino acid creme* were supplied to the medical personnel and patients, without their knowledge of composition. The active ingredients of the amino acid creme are a protein hydrolysate composed of l-leucine, l-isoleucine, l-methionine, l-phenylalanine, and l-tyrosine; plus added dl-methionine, cysteine hydrochloride, talc, and the germicide benzethonium chloride. These active ingredients are incorporated in a washable, greaseless ointment base with a pH of 5 (Dermabase). The placebo creme was a stabilized emulsion of fatty acid esters with a neutral pH.

All patients in the study had the physical finding of dermatosis with grading as mild, moderate or severe at the beginning of therapy and daily thereafter.

Mild rash consisted of erythema, moderate rash of erythema plus flat macular lesions with or without raised papular lesions, severe rash of erythema, macules, papules, vesicles and/or ulcerations.

Therapeutic Technique

The diaper was removed and the affected areas gently sponged with lukewarm water and dried. The creme was freely applied with a wooden tongue blade. In mild and moderate cases, a fresh clean diaper was applied. In severe cases, the patient was placed under a heat cradle without a diaper. All diapers were removed as soon as they became wet or soiled. No rubber or plastic pants impervious to air or water were used.

Results were observed by the physician who initiated therapy and who followed the clinical course throughout the study. Improvement was called slight when minimal evidence of remission was noted. Moderate improvement indicated a definite lessening of the intensity and extent of the skin lesions. Excellent improvement indicated a complete or almost complete remission.

Results

The results are shown in Table 1. In the placebo group, 29 patients were followed: 6 with mild, 14 with moderate and 9 with severe skin involvement. There was complete or almost complete remission in 13 of these cases, moderate improvement in 8 and slight improvement in 5.

In the group receiving the amino acid creme, 36 patients were followed: 2 with mild, 17 with moderate and 17 with severe

*Methakote® Creme, Borden Company, Pharmaceutical Division, New York, New York.

TABLE 1

RESULTS OF DOUBLE-BLIND CLINICAL STUDY

TREATMENT	DEGREE OF RASH BEFORE TREATMENT*	NUMBER OF PATIENTS	IMPROVEMENT†			
			A	B	C	D
Placebo Creme	Mild	6	1	2	3	0
	Moderate	14	6	4	1	3
	Severe	9	6	2	1	0
TOTALS		29	13	8	5	3
Amino Acid Creme	Mild	2	2	0	0	0
	Moderate	17	14	3	0	0
	Severe	17	14	3	0	0
TOTALS		36	30	6	0	0

*Mild=erythema; Moderate=erythema + macules ± papules; Severe=erythema + macules ± papules ± ulcerations.

†A=excellent; B=moderate; C=slight; D=none.

skin involvement. There was complete or almost complete remission of the disease in 30 cases and moderate improvement in the remaining 6. Although more patients were studied than are reported here, the double blind aspects of the evaluation were terminated at this point because the superior results with the amino acid creme were evident to those conducting the evaluation with resulting identification of the medicated creme.

Two Illustrative Cases

CASE 1

A white boy of 6 weeks with diarrhea of 3 days duration, developed severe irritation of the skin a day before admission. Physical examination revealed a moderately dehydrated infant with a severe diaper rash involving the buttocks and scrotum. The lesions consisted of areas of erythema, macules and scattered ulcerations of the scrotum and buttocks. Dehydration and acidosis were corrected by *IV* fluids and electrolytes, diarrhea controlled by tea and boiled skimmed milk. The severe diaper rash cleared up well in four days with amino acid creme. Figure 1 demonstrates the extent of the diaper rash in case 1. Figure 2 demonstrates the results after four days of treatment.

CASE 2

A white girl of 5½ months had a history of diarrhea of 4 days duration. Diaper rash developed 2 days before admission. The baby was lethargic and severely dehydrated. Diaper area-presence of severe rash, beefy red, with non-raised macules and scattered ulcerations. Dehydration and acidosis corrected by *IV* fluids and electrolytes. Amino acid creme was applied to diaper area 5-6 times a day. The rash was 95% improved in 5 days.

Figure 3 shows the extent of the diaper rash. Figure 4 shows the results after 5 days of treatment.

Discussion

Many terms such as napkin dermatitis, diaper eruption, ammonia dermatitis, gluteal erythema, etc., have been used to describe the skin reaction restricted to the diaper area. A characteristic finding related to diaper rash, in addition to the skin lesions, is the presence of concentrated urine and an ammonia odor. Ammonia odor can also be produced by the presence of urea-splitting bacteria in the diaper area. These bacteria which are a part of the intestinal flora migrate through the anal canal to permeate the surrounding skin surface of the diaper area.

During periods of altered metabolism which are associated with infections, trauma, burns, teething, environmental temperature changes, etc., the compensatory mechanisms of the body produce homeostasis. Many of these conditions are associated with varying degrees of acidosis, which tend to deplete the alkaline reserve. An attempt to conserve this reserve results in destruction of body protein and formation of ammonia which is then excreted by the kidney as ammonia, urea or ammonium salts.

The administration of amino acid preparations such as methionine by the oral route[1] suppresses the catabolism of dispensable protein stores and results in increased nitrogen retention and decreases acidosis. Thus the formation of ammonia to conserve alkaline reserve is retarded or stopped. The use of antiseptics locally or in the cleansing of the diaper can inhibit the urea-splitting bacteria and thus prevent ammoniacal diaper rash. The above listed measures are beneficial from a therapeutic and prophylactic standpoint. A third objective is to aid the affected skin area to return to its normal state. In the amino acid creme, methionine, cystein HCl and an amino acid hydrolysate are added to achieve this objective.

Methionine has been found to be beneficial in wound healing[3-6] when fed or parenterally administered to animals. Methionine given orally has been found to be protective for the body against x-ray.[7] Capillary resistance has been increased by the oral administration of methionine.[8] The alopecia resulting from experi-

3. Williamson, M. B., et al., *Proc. Soc. Exper. Biol. & Med.*, 77:302-305,1951.
4. Williamson, M. B., & Fromm, H. J., *Proc. Soc. Exper. Biol. & Med.*, 80:623-626,1952.
5. Williamson, M. B., & Fromm, H. J., *Proc. Soc. Exper. Biol. & Med.*, 83:329-333,1953.
6. Tamayo, Ruy Perez, & Ihnen, M., *Am. J. Path.*, 29:233-249,1953.
7. Perry & Buchet, *Semaine hôp. Paris.*, 29: 1935-1939,1953.
8. Kohl, Hans, *Deutsche Ztschr. Verdauungskr.*, 10:246-254,1950.

RESPONSE OF DIAPER RASH TO TREATMENT WITH *METHAKOTE CREME*



FIGURE 1

Severe diaper rash involving the buttocks and scrotum of small infant previous to treatment (Case 1)



FIGURE 2

Appearance of diaper rash after four days of treatment with Methakote Creme (Case 1)



FIGURE 3

Extent of severe diaper rash in female infant previous to treatment with amino acid creme (Case 2)



FIGURE 4

Appearance of diaper rash after five days of treatment with Methakote Creme (Case 2)

mental thallium poisoning in rats has been delayed by the administration of methionine.[9] The mechanism of these effects of methionine has not been completely explained.[10]

Methionine has been shown to be absorbed by the skin. With its sulfur radioactively labeled, applied to the skin of guinea pigs, it was demonstrated in the hair as the radioactive sulfur of the absorbed methionine.[11,12] The radioactive sulfur was also found in the liver, spleen and heart in the same ratio as in the methionine which had been fed or injected. Methionine has been applied externally to wounds and has been found to have a beneficial healing effect.[13] Local application of methionine compound to the legs in the treatment of varicose ulcers has been based on poor local anabolism of proteins and the indispensability of methionine.[14] A topical methionine preparation used for treatment of seborrhea capitis with beneficial results has been reported.[15] Topical application of methionine is reportedly effective in acne.[16] Results obtained in this study indicate that added methionine, cysteine and amino acids, supplied by the protein hydrolysate, aid in more rapid healing of the severe cutaneous lesions.

The protein hydrolysate added to the creme used in this study supplies a source of amino acids known to be effective in wound healing, and acts as a buffer to maintain a constant pH after application of the creme to the skin. The acid nature of the ointment is compatible with the pH of the skin in the anal and groin area.

The addition of the germicidal agent bennzethonium chloride to the amino acid creme results in an effective means of controlling secondary infection and inhibiting the growth of Bacillus ammoniagenes.

Summary and Conclusions

Sixty-five patients with diaper rash, ranging in age from 5 days to 2 years, were observed in a double blind study using a placebo and an amino acid creme.

In the placebo group, 29 patients were followed—6 with mild, 14 with moderate and 9 with severe skin involvement. There was complete or almost complete remission in 13 of these cases, moderate improvement in 8 and slight improvement in 5.

In the group receiving the am-

9. Gross, P., et al., *J. Invest. Dermat.*, 10:119-135,1948.
10. Editors, *Nutrition Rev.*, 15:16-17,1957.
11. Edwards, L. J., *Nature*, 173:1042-1043,1954.
12. Edwards, L. J., *Biochem. J.*, 57:542-547, 1954.
13. Isidor, Pierre, *Rev. pathol. gen. et comparee*, 54:606-617,1954.
14. Glasser, R., & Foncin, R., *Bull. Soc. Franc. dermat. et syph.*, 5:471-473,1949.
15. Lubowe, I. I., *Med. Times*, 82:124-129,1954.
16. Lubowe, I. I., *Drug and Allied Ind.*, 40: 1954.

in acid creme, 36 patients were followed—2 with mild, 17 with moderate and 17 with severe skin involvement. There was complete or almost complete remission of the disease in 30 cases, and moderate improvement in the remaining 6.

The rationale of the use of amino acids, especially methionine, in the treatment of diaper rash is presented.◀

Transfusion Hazards

Hemolytic transfusion reactions may be expected from one per 4200 bottles and the mortality rate may be expected to vary between 15 and 50%. The rate reported for the period 1917 to 1941 was one per 541; that for the period 1940 to 1948, one to 1684 transfusions.

Since homologous serum jaundice is transmitted by blood transfusions, its incidence and mortality must also be considered. The incidence is 0.3 to 1.9% in civilian hospitals, so that 15,000 to 100,000 cases of homologous serum jaundice can be expected to develop each year. These patients are out of work for an average of 6 weeks, and 1 to 5% die.

Circulatory overload is now considered by some to be the most common cause of death due to transfusion. There are also many other risks. Recent studies have shown that 1 to 3% of bottles collected are bacterially contaminated, the organisms are most frequently gram-positive, and usually do not survive in the blood. However, gram-negative rods, capable of growing in the cold, and producing an endotoxin, may, if transfused in blood, produce a severe intoxication with peripheral vascular collapse, profound shock, and acute or sudden death.

The dangers of isosensitization, particularly in girls and young women, are very considerable. Febrile and allergic reactions, though frequent, are seldom serious.

In single pint transfusions, the question often is not how much blood loss would justify the risks associated with transfusion, but rather in smaller losses, whether other products might serve the need with less risk. Serum albumin does not carry this risk, nor does irradiated plasma stored at 32° C. for six months prior to use.

The therapeutic benefits to be anticipated must always outweigh the hazards of transfusion therapy.

Joyer, R. M., *Nebraska M.J.*, 45:337-338,1960.

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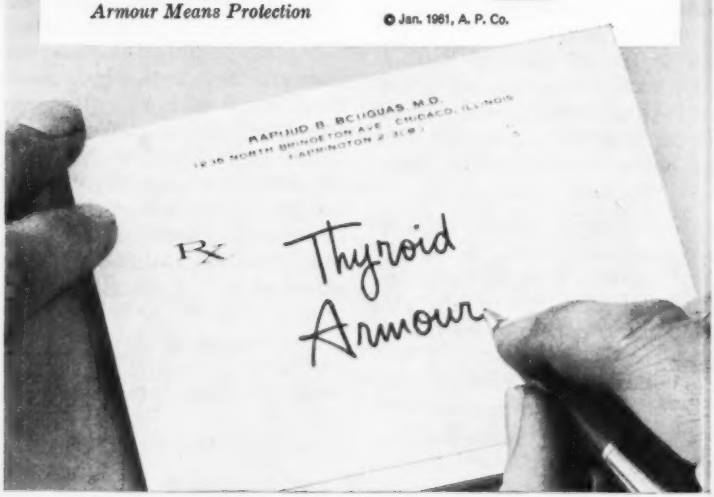
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Treatment of Dizziness

CHARLES JOSEPH ELIA, M.D., *Reno, Nevada*

►*The cause of dizziness should be removed if possible, and control measures should be instituted quickly. Intravenous sodium bicarbonate relieved this symptom in more than 80% of patients. Maintenance therapy with trimethobenzamide controlled dizziness in addition to nausea and vomiting.*◄

With the exception of hemorrhage, no single symptom panics a patient more than dizziness. It appears equally in both sexes, in every age group, and in an insidious or acute manner. Every physician should be able to control it quickly, first making reasonably sure that the case is actually one of dizziness and not hysteria, syncope, or some other condition.

Ménière's Disease

Blood is supplied to the labyrinth through the internal auditory artery, which is a very fine, single vessel originating in the vertebral, basilar, or posterior inferior cerebellar arteries.[1] Vasospasm of this thread-like artery may result from labyrinthitis of acute or chronic character, or toxic labyrinthitis due to drugs, chemicals, and infections. Allergy, hydration, eighth nerve tumors and concussion of the ear may also be factors in its causation. Symptoms of this vasospasm include dizziness, deafness, and tinnitus, with nausea, vomiting and nystagmus also a part of the clinical picture in some patients. Not all of these symptoms are present in the same patient, and not all appear at the same time.

Attention should be directed towards relaxing the spasticity of the blood vessels, especially the labyrinthine branch of the internal auditory artery (this may contain a thrombus responsible for the symptoms). Hearing will be gradually improved and vertigo quickly relieved when the spastic condition of the vessel has been corrected, providing the acoustic or cochlear nerve has not been damaged.

Atropine sulfate, 1/75 to 1/50

1. Bozzi, G., *Oto-rino-laring.*, 4:464,1943.

grain, gives immediate relief from an acute attack of dizziness in Ménière's disease. If all of the symptoms of the complex are present in an acutely ill patient, and if no immediate response is noted to the injection of atropine sulfate, an intravenous injection of sodium bicarbonate (50 cc. of a 7% concentration) should be given rather rapidly. Tingling of lips, tongue, palate, and possibly of the pharyngeal mucous membrane may be noted after the injection. Approximately 80% of those receiving this compound experience marked relief of vertigo.[2] Nicotinic acid (beta-pyridyl carbinol*) given orally has a similar effect, but not to the same degree. In the event vertigo is due to a thrombus, heparin may be administered intravenously in doses of 10 mg. every two hours up to a maximum of 40 to 50 mg. daily.

After the acute phase of the disease is controlled, trimethobenzamide† may be used as maintenance therapy. This drug is especially beneficial in controlling nausea and vomiting.

Whether Ménière's disease or another condition is the cause of dizziness, patients should be warned against smoking, any hormone problems present should be corrected, electrolyte balance should be maintained, and dietary and vitamin deficiencies should be corrected.

Injuries and Diseases of Temporal Bone

The internal ear may be permanently injured as the result of temporal bone damage in an accident (Figure 1), many patients having permanent dizziness because of vestibular damage. Audiograms should be done routinely as soon as the patient has recovered sufficiently to have them done properly. The presence of nystagmus is of diagnostic value in determining the cause of dizziness following injury, since spontaneous nystagmus which is vertical, horizontal, or rotary has a central cause. Several drugs* are of value in controlling nausea and vertigo, but no drug will bring hearing back when the cochlea has been destroyed or injured beyond repair.

In the case of a patient who has dizziness and a discharging ear, it becomes necessary to ascertain whether the dizziness is the result of progression of infectious pathology in the temporal bone. The fistula test serves this purpose very well. It is done by use of a Siegel ear speculum which completely occludes the external auditory ca-

*Examples are *Dramamine®*, G. D. Searle & Co., Chicago; and *Bonamine®*, J. B. Roerig & Co., New York.

*Roniacol®, Roche Laboratories, Nutley, N.J.
†Tigan®, Roche Laboratories, Nutley, N.J.
2. Elia, J. C., *Rocky Mountain M.J.*, 56:33-36,1959.

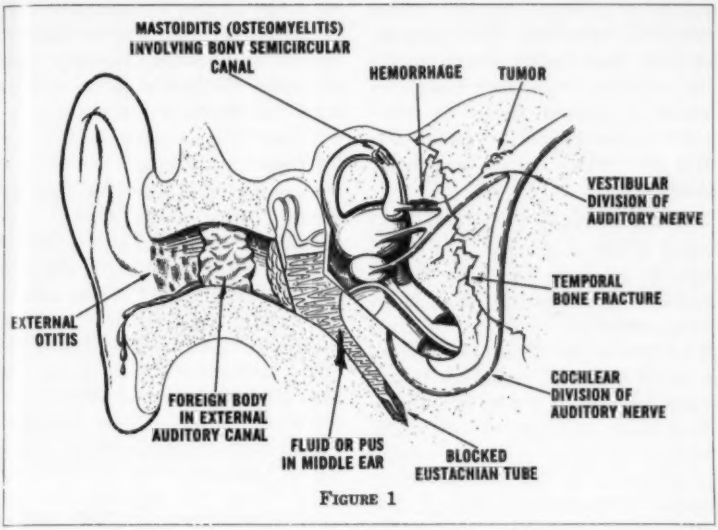


FIGURE 1

nal, to which a Politzer bag is attached by a short piece of rubber tubing. Pressure on the bag drives air into the middle and then internal ear. Should a fistula be present in the bony semicircular canal, and if there is some function remaining in the canals, more vertigo and nystagmus will be noted.

When there is a bilateral loss of vestibular function (or a unilateral loss, and the opposite side fails to compensate), Dandy's sign, or an inability to focus on an object, is noted. A patient will complain of blurred vision when looking at an illuminated object in the dark, or when turning the head he will complain that stationary objects seem to move, or when walking stationary objects appear to move vertically.[3]

Middle and External Ear Conditions

FOREIGN BODY. Removal of a foreign body (Figure 1) must be undertaken with care to avoid damage to the tympanic membrane. If it cannot be easily grasped and removed without discomfort to the patient, 0.5% lidocaine* can be injected in all four quadrants of the external

*Xylocaine®, Astra Pharmaceutical Products Inc., Worcester, Mass.

3. Kehpopth, H. E., *Arch. Ohren-Nasen*, 172: 542,1958.

auditory meatus at its most proximal portion. The foreign body is then under direct vision for manipulation and easy removal. Dizziness caused by complete occlusion of the canal disappears when the anesthetic takes effect.

When working in the external canal under a general or a local anesthetic, care must be taken against traumatizing the drum head, since the warning of pain is absent. If the drum is injured, a small piece of cigarette paper may be placed over the drum head with a piece of cotton to hold it in place for two weeks. If there is a history of drum head perforation, irrigation should be avoided because of the danger of forcing debris and infection into the middle ear and possibly into the mastoid cells. Particles such as grains of sand can be removed by gentle irrigation with warm sterile water, metallic materials with a small magnet.

EXTERNAL OTITIS. A history of recurring itching of the ears is all the warning necessary for examining the external auditory canals (Figure 1) for possible external otitis. The external canal must be cleansed of all debris and foreign material by use of a suction apparatus including a No. 16 or 18 needle and an adapter. The needle, bent to the convenience of the individual's ear, is passed through the ear speculum of an ordinary battery type otoscope. Using a separate speculum and applicator for each ear will prevent transference of any infection or fungus.

Constant irrigation of the external canal with water and irrigating substances should be avoided while making a diagnosis. The normal pH of the external canal is slightly acid, so that materials used in the treatment of this condition should be on the acid side to be comfortable and effective. Some of the preparations used with much success are listed below.*

OTITIS MEDIA. Whether purulent or catarrhal, this disease may cause dizziness. It should be treated by adequate drainage of the middle ear *via* both the tympanic membrane and by myringotomy, and by the use of systemic vasoconstrictors.† No topical medication should be used in the nasal passages, since rebound swelling is generally worse than the original edema. Furthermore, chemical irritation of the nose and the entire bronchial tree is thus avoided. Sulfonamide therapy in the form of

*Examples are *Neo-Hydeltrasol®*, Merck Sharp & Dohme, Philadelphia; *Triburon®*, Roche Laboratories, Nutley, N. J.; and *Otobione®*, White Laboratories, Inc., Kenilworth, N. J.

†Examples are *Romilar CF®*, Roche Laboratories, Nutley, N. J.; *Fedrazil®*, Burroughs Wellcome & Co., Tuckahoe, N. Y.; and *Rynatan®*, Irwin, Neisler & Co., Decatur, Ill.

sulfadimethodine* has been extremely successful if used in adequate dosage. For the average adult 2 Gm. should be given daily for one or two days, and then 1 Gm. daily for 10 to 12 days. Medication can be continued for two to three weeks without ill effects. If allergy is present, an antihistaminic should be administered.

The proper treatment of an early acute otitis media can check progress of the disease into a chronic mastoiditis and vertigo with the resultant necessary extensive regimen of treatment. If drums bulging with any fluid are opened by myringotomy or tympanotomy, this followed by chemotherapy, e.g. Madribon, for a minimum of 10 days, clearing without complications is likely.

MASTOIDITIS. Although a major battle against this disease (Figure 1) was won by the sulfonamides, the present tendency is to promote drainage and use chemo-antibiotic preparations as adjuncts. If adequate dosage of medication is administered early, surgery may be avoided. Dizziness will usually be relieved within 24 hours after drainage has been promoted, but the patient should be advised that it is apt to remain until inflammation has subsided. With the availability of the newer drugs, the sulfonamides seem to have been left behind. Since the newer drugs are costly, a patient may have only four days of medication for an acute otitis media, the expense of medication precluding extended treatment. Consequently, the condition recurs again and again, acute otitis media becomes a chronic otitis media, and this later progresses to a chronic mastoiditis.

CHRONIC MASTOIDITIS. The conservative treatment of this disease generally involves two to three months. The patient is given 15 injections of gamma globulin (one every other day), and a starting dose of 2 Gm. Madribon for a day or two, then 1 Gm. daily for two to three months. The odor will disappear first, then the discharge will decrease; finally the dizziness will decrease and even disappear if treatment is successful. A few patients may show spontaneous closure of perforations with retention of some degree of hearing.

VERTIGO OF CENTRAL ORIGIN. This is rarely severe, may be either constant or transitory, and is often associated with diplopia, sensory or motor disturbances, blurred vision and persistent spontaneous nystagmus. Vertigo with headache and nerve-type deafness may indicate a mass on

*Madribon®, Roche Laboratories, Nutley, N.J.

the cerebellopontile angle. If it is surgically accessible, it should be removed before permanent damage of a more serious nature results.

STERNO - MASTOID SYNDROME. This consists of dizziness, headache, and imbalance with trigger zones in either the clavicular or the posterior attachments of the sterno-mastoid muscle.[4] A myofascial trigger mechanism is a necessary component. Treatment is generally very effective when ½ cc. of lidocaine is injected into the belly of the muscle, or the muscle may be sprayed with ethyl chloride. Nineteen such cases have been treated in this fashion with perfect results in 14 patients who were followed for more than three months. The other five could not be located for evaluation. Dry needling has been reported as successful in some cases.

CEREBRAL ARTERIOSCLEROSIS WITH VERTIGO. One of the major problems of geriatric patients concerns this condition, which is due to excessive tension in the sclerosing vessels. Dizziness in this group of patients tends to be intermittent. Treatment is complicated because both the primary disease and any associated problem require management. For example, hypertension associated with the sclerosing vessels must be treated insofar as possible, while antiemetics should be prescribed to keep the patient reasonably comfortable.

HYPOTENSION. In patients over 64 years, this may also be a cause for dizziness.[5] Nausea and vomiting may be noted while the patient is still asleep, and attacks of dizziness are frequent shortly after awakening in the morning.

Summary

The cause of dizziness should be removed if possible, and if this is not feasible, effective control measures should be quickly instituted. Measures which are helpful are as follows:

1. The nasal passages should be kept patent to insure adequate ventilation to and through the Eustachian tube to the middle ear.

2. Foreign bodies should be removed and diseases of the external auditory canal combatted with proper medication to achieve equalization of atmospheric pressure with middle ear pressure.

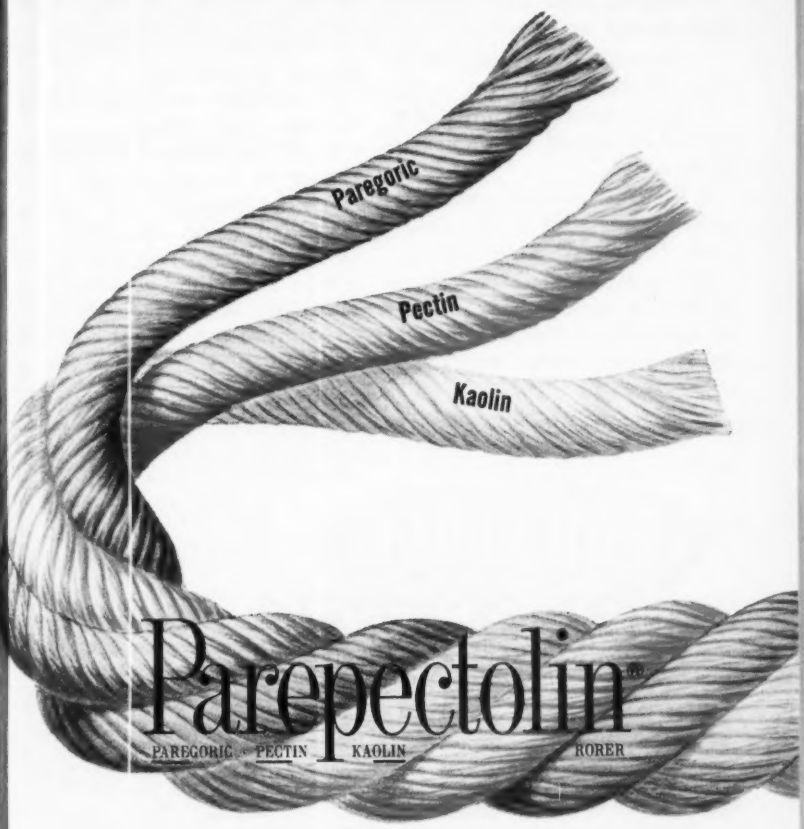
3. Blocked Eustachian tubes should be treated with systemic vasoconstrictors and gentle inflation.

4. Fluid and purulent material in the middle ear should be removed by myringotomy or tym-

4. Weeks, V. D., & Travell, J., *J. Pediat.*, 47: 315-327,1955.

5. Orma, E. J., & Koskenojoa, M., *Geriatrics*, 12:92-100,1957.

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panotomy.

5. Hypertension and hypotension should be remedied.

6. Corrective lenses should be worn if required.

7. Vasospastic conditions should be treated with antispasmodics.

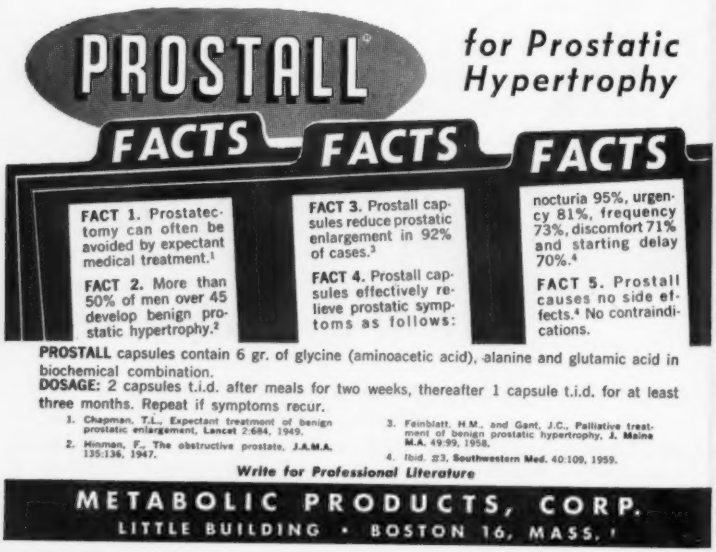
8. Central nervous system lesions if accessible and operable must be treated surgically.

9. Temporal bone infections should be managed by a combination of sulfadimethoxine and gamma globulin over a sufficiently long period to control, particularly, infection in the locked spaces of the mastoid process.

10. Imbalance of electrolytes should be rectified.

11. Allergic conditions should be adequately treated.

12. When dizziness and vertigo cannot be linked directly to a cause by repeated observation, tests and other diagnostic criteria, intravenous sodium bicarbonate should be administered. More than 80% of patients treated with this compound received much relief.◀



Indications and Techniques for Vaginal Repair

ARCHIBALD PERRIN HUDGINS, M.D.,*
Charleston, West Virginia

►*Colporrhaphy should be considered for uterine prolapse, gross cystocele, rectocele, urinary or bowel incontinence, and urinary residue from cystocele. Other symptoms which may justify surgical correction of relaxation include pelvic pain, chronic diseased cervix, marital maladjustments, and backache.*◄

A carefully considered vaginoplasty can offer much to the physical and emotional well-being of a woman, and should not be denied her if she can be improved. Why let a woman of 28 feel like she is 50 because she may have another child six years from now?

In these days when the accusation of "too many operations," or an equally honest opinion that "moderate relaxation, cystoceles, and rectoceles rarely produce symptoms," comes with a heroic ring from the speaker, one must treat carefully.

The other side of the picture is the patient's report, when after a careful history and examination a moderate rectocele is repaired and the patient asks, "Why wasn't I given this relief years ago? I feel like a different woman now."

Symptoms which may be considered as justification for colporrhaphy are as follows:

1. Prolapse with equally gross cystocele and rectocele, or urinary or bowel incontinence.
2. Urinary incontinence resulting from stress.
3. Urinary residue due to a cystocele, with recurrent cystitis.
4. Rectocele which requires replacing before adequate bowel evacuation.
5. Inadequate uterine support with recurrent ulceration of cervix (benign).
6. Pelvic pain, pressure, dropped-out feeling usually dating from deliveries and worse when on feet or straining, when per-

*Editor's Note: We regret to inform our readers of the death of Dr. Hudgins on October 27, 1960.

sistent and not accounted for otherwise.

7. Disturbed marital adjustment.

8. Backache (low) when associated with some pelvic discomfort.

Discussion is not required on the first four indications listed.

Inadequate Uterine Support

In the fifth indication, "Inadequate uterine support with recurrent ulceration of cervix," careful biopsies and cytology studies must be done. It is very discouraging for the patient when an ulcerated area on the cervix recurs, or does not clear up, after conization or cautery. When the high vaginal vault is large and there is poor support of the uterus even though the introitus is the usual 2 fingers, an unhealthy cervix frequently persists until repaired by high muscle and fascia correction.

Pelvic Pain and Pressure

Certainly a vaginal repair is not the first consideration for pelvic pain and pressure (indication six) even though the patient has had vaginal deliveries. However, if pelvic pain dates from one or more vaginal deliveries, becomes worse when the patient is on her feet, worse at menses, has not been relieved by palliative measures, and there is definite muscular weakness and inadequacy, a thorough colporrhaphy can be expected to give good results and is indicated.

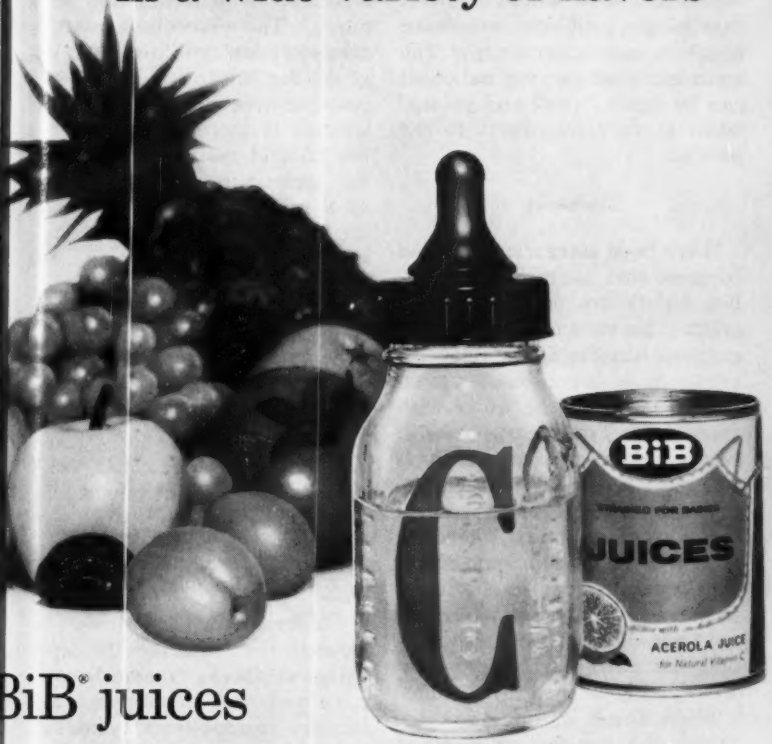
The relationship between pelvic pain and the pull on the high levator ani muscle groups was forcefully illustrated during a series of repairs carried out under low spinal anesthesia. My[1] dissection and identification of the levator muscle is more extensive than is routinely done. Three or even four sutures are placed in the muscle before the fascia is closed. When these high muscle sutures were put in under low saddle anesthesia, the patient invariably complained of pain in the abdomen, saying "That's where I have my pain and pressure when I stand up." This gives anatomic evidence that pelvic pain can result from distortion or disturbances in the perineal muscles.

Disturbed Marital Adjustment

The physician must never forget that a sex function (indication seven) as well as a birth canal must be considered in these patients. Tactful questioning can determine if relaxation has been found disturbing to either husband or wife. The slightest reference to dissatisfaction on the part of the husband

1. Hudgins, A. P., *Am. J. Obst. & Gynec.*, 56: 506,1948.

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References: (1) Asenjo, C. F. and Freire de Guzman, A. R.: Science *103*:219 (Feb. 22) 1946. (2) Clein, N. W.: J. Pediat. *48*:140-145 (Feb.) 1956.

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would set off a whole chain of psychologic problems, reactions, conflicts, and uncertainties. The assurance that her vaginal canal can be made "small and young" again is very important to the patient.

Backache

It has been categorically stated by some that backaches (indication eight) are never of pelvic origin. This statement may be reexamined in the light of several points of history and examination. Is the backache worse with menses, traction on uterus with tenacula, cervical dilation, or pelvic pain? I did routine cervical dilations without anesthesia in the office to determine where the patient felt the pain. Some 80 per cent were referred to the lower pelvis, 5 per cent about the navel area, 10 per cent to the back, and the remaining 5 per cent were poorly defined in location.

Since there is a relation between the healthy or diseased cervix and pelvic muscles of good tone, the relief of back pain may be expected in selected cases. The clinical relief of backaches after a high muscle and fascial repair is much more impressive than these figures suggest.

Greater relief of complaints has been found following the more extensive dissection and high muscle approximation technique.[1] The procedure involves greater tissue exposure, especially of the levator muscles. The postoperative discomfort, if untreated, is more noticeable, but the clinical results fully justify the technique. Methocarbamol* as a muscular relaxant, chiefly for low back strains[2-4] and other spastic muscle problems, has proven remarkably effective in relieving the postoperative discomfort by checking the resulting levator ani spasm. This drug, given in a dosage of three tablets every four hours, has been used after both obstetric and gynecologic perineal repairs with excellent results.[4] No side effects have been observed and pain relief has been most gratifying.

Summary

Colporrhaphy is routinely considered for uterine prolapse, gross cystocele, rectocele, urinary or bowel incontinence, and urinary residue from cystocele.

It is suggested that the following symptoms also may justify the surgical correction of relaxed vaginal structures: Pelvic pain, chronic diseased cervix (frequently recurrent), marital maladjustments, and backache.

A method of perineal dissec-

* *Robaxin®*, A. H. Robins Co., Richmond, Virginia.

2. Doherty, S., & Shields, C. C., *J.A.M.A.*, 167:58,1958.
3. Forsyth, H. F., *J.A.M.A.*, 167:163,1958.
4. Hudgins, A. P., *Clin. Med.*, 6:126,1959.

tion for a more adequate reconstruction is described.

Robaxin, three tablets every four hours during the postoperative period, has made these patients more comfortable. Its effect is produced by relieving the spasm of the muscle.◀

Percutaneous Splenoportography: Indications and Importance in the Study of Portal Hypertension

This procedure was done on 56 patients by injecting an opaque substance into the spleen during a period of 9 seconds, x-ray pictures being made at the third, sixth, and ninth second after injection. Splenoportograms of the 56 showed the splenoportal system opacified in 51, 35 of whom had cirrhosis of the liver and 28 signs of portal hypertension. X-ray examination of the esophagus and endoscopy showed varices in 16. A normal condition was shown in 9 of the 35 with chronic liver cirrhosis. Esophageal varices and splenoportal collaterals were not shown by x-ray examination or endoscopy in the remaining 26. This method has diagnostic value in patients with chronic myeloid leukemia, liver metastases, and hydatid cysts, and in portal hypertension of intra- or extrahepatic origin. The procedure is harmless and well tolerated.

Larrain, C., et al., *Rev. méd. Chile.*, 87:410-420,1959.

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original article

Secondary Operations for Complications Following Transabdominal Gastric Resection

RAYMOND E. ANDERSON, M.D.,* *Chicago, Illinois*

►*Approximately 10 per cent of patients undergoing gastric resection require a secondary surgical procedure. Complications which may require re-operation include intra-abdominal abscess, wound infection, outlet obstruction, and other unforeseen complications. Prevention is most important.*◄

The immediate postoperative complications which may follow gastric resection are a serious and distressing problem to the surgeon and a considerable hazard to the patient. A survey of 255 consecutive transabdominal gastrectomies undertaken over a five-year period indicates that one of every three patients on whom partial or total removal of the stomach is carried out will suffer a significant complication in the early hospital postoperative period.[1] Furthermore, 10 per cent of the patients upon whom gastrectomy is performed will require an additional operative procedure during hospital convalescence in order to achieve the ultimate in salvage.

Subjecting the convalescent patient to a second operation requires courage; yet, situations develop in the practice of every surgeon which make it his duty to perform such operations. A summary of the total number of complications in this series is presented in Table 1. It is shown that the mortality of the group was 4.7%, but a closer perusal of the case records indicates that three of the 12 deaths were calculated risks for any major surgical procedure, thus reducing the mortality as a direct result of gastric resection to 3.6%. Among those persons who underwent a second operative procedure the immediate mortality rose to 11.1%.

Wound Dehiscence

Of the 27 additional operations

*Assistant Clinical Professor of Surgery, University of Illinois College of Medicine, and St. Luke's Division of Presbyterian-St. Luke's Hospital.

1. Anderson, R. E., & Witkowski, L. J., *Arch. Surg.*, 80:276-282,1960.

4. Accurate approximation of the planes of closure.

5. Use of tension sutures, when indicated, for eight to 10 days following surgery.

6. Maintenance of a proper nutritional status.

Despite the application of these principles, when serous exudation, bloody discharge or herniation of viscera occurs, the surgeon must act immediately, return the patient to the operating room, and under general anesthesia re-suture the defect. Use of through-and-through sutures of stainless steel wire, an inch apart and through all the layers of the abdominal wall, is the best method of re-suturing.

Hemorrhage

Every gastrectomy is followed by a certain amount of bleeding for 24 to 48 hours. Several suture lines and multiple points of ligation account for this, and the administration of 500 to 1000 cc. of whole blood in the postoperative period is not unusual. Continuation of a bloody return through the indwelling nasogastric or gastrostomy tube or emesis of bloody fluid about the tube beyond 36 to 48 hours, must alert the attending staff to the possibility of complication.[2,3]

Fourteen of the patients in this series bled excessively following gastric resection. Five required re-operation to control the flow, and one eventually expired as a result of continued bleeding. Nine others had only replacement therapy and lavage, and of this group two died before surgery could be undertaken. It would appear that the probability of survival is about the same under conservative as under surgical therapy. However, in both of the patients who could not be saved, shock delayed the immediate return of the patient to the operating room.

The decision to re-operate upon a bleeding patient must be carefully weighed. In one series[4] nine out of 14 patients who bled during the early postgastrectomy period reached the point of shock before corrective measures could be instituted. It is the investigator's opinion that early postoperative hemorrhage must be attributed to technical error until proven otherwise, and the surgeon must face the fact that immediate correction is imperative. A bleeding diathesis must not be overlooked, and adequate blood studies are indicated if unwarranted surgery is to be avoided.[5] Utilization of the Rawson-Abbott double-lumen tube aids greatly in locating

2. Colp, R., & Weinstein, V., *Surg. Clin. N.A.*, 35:383-388,1955.
3. May, A. M., *Am. J. Surg.*, 94:723-726,1957.
4. Pearce, C. W., et al., *Surgery*, 42:447-461, 1957.
5. Littler, J., *Brit. J. Surg.*, 45:277-279,1957.

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the source and stopping the hemorrhage.

The bleeding vessel will be found, in order of frequency, at the lesser curvature at the point of ligation of the left gastric artery, the vascular network at the gastrojejunal anastomosis, the base of an unresected ulcer crater, along the duodenal stump closure, or the site of an early gastroenterostomy stomal ulcer. In continued postoperative bleeding nasogastric suction, irrigation, the application of the various topical hemostatic agents and replacement therapy are all of great service at times, but unless early control is obtained, reexploration is urgently demanded. Hourly reports on the character of the gastric drainage are essential at this stage and are far more revealing than the hemoglobin or red blood count determinations.

If surgery must be undertaken, the following procedure[6] is preferred: The original incision is re-opened; then, after mobilizing the gastric stump a counter-incision is made above the gastrointestinal anastomosis, through which the entire area of reconstruction and closure may be visualized and corrective sutures easily placed. Only one out of the five patients who were reoperated upon for bleeding in this series expired. Others[7] report a 50 per cent mortality for the same procedure.

These statistics re-emphasize the need for the use of every means of prevention, acceptance of and never failing action on the principle that even a small vessel can continue to bleed profusely after the abdomen is closed, and that meticulous hemostasis is mandatory during the course of the operative procedure.

Duodenal Perforation

Frank leakage from the closed duodenal stump occurred 11 times in this series of patients. Six of these patients were reoperated upon, two not surviving the second procedure. The remaining five were treated by conservative means and four succumbed. Thus, six of the 11 patients whose duodenal closure proved to be inadequate died as a direct result of this complication.

When confronted with this catastrophe, the surgeon is once again faced with a difficult decision. It is apparent that surgical intervention offers the greater possibility of saving the patient's life, and if secondary closure of the area of perforation cannot be accomplished, provision of an external fistula is

6. Robb, H. J., & Nicke, W. D., *Surgery*, 42: 474-475,1957.

7. Phillips, R. B., & Childs, W. A., *Am. J. Surg.*, 95:411-414,1958.

probably the safest course to follow.

The several factors involved in an unsuccessful attempt to close the difficult duodenal stump[8] may be summarized as follows: Prevention of gastrojejunal obstruction with its increased pressure in the afferent limb, preservation of adequate stump blood supply, adequacy of seromuscular duodenal closure, awareness of the possibility of suture digestion, and the maintenance of proper systemic factors for healing.

Most surgeons are adamant for a layered closure of the duodenal wall. Of the various methods which have been advocated,[9] all have merit. Duodenostomy has been recently developed as a safety-valve alternative when there is a question of tissue viability at the suture line.[10] Nevertheless, regardless of the technical method utilized at the duodenal approximation, the most fundamental concept in the ultimate reduction of morbidity and mortality resulting from duodenal perforation resides in the surgeon's early recognition of its occurrence and the taking of immediate steps for its correction. If fistulization has been developed, the use of wound suction, protection of the skin, adequate hydration and protein and mineral replacement is essential if the patient is to be saved.

Avoidance of the complication calls for every endeavor to overcome the known causes of faulty healing, and the acceptance of the fact that a certain number of closures are difficult and precarious. When such is the case, it is much more sensible to provide generous external drainage than to close the abdomen tightly and hope for the best.

Other Complications

1. Intra-abdominal abscess. This complication occurred six times in 255 gastric resections. Three of the patients were thought to have developed a leakage at the gastrojejunal anastomosis (one from a small duodenal rent, and the cause of the other two unknown). The latter two were re-operated upon, one for the drainage of a large subphrenic accumulation of purulent matter and the other for an abscess surrounding the duodenum. All six patients survived.

Unless there are definite indications of the nature of the intra-abdominal mass, it is probably safest to immediately give an antibiotic in large doses and carefully follow the course. More

8. Stanford, C. E., *U.S. Armed Forces M.J.*, 7:336-342,1956.
9. Chamber, K., *Lancet*, 2:1303-1306,1958.
10. Welch, C. E., & Rodkey, G. V., *Surg. Gynec., & Obst.*, 98:376-379,1954.

often than not such a program effects a cure.

2. Wound infection. Hematoma and infection developed seven times in the series, but in only one case was it necessary to return the patient to the operating room for drainage of the area. The procedure allowed subsequent healing. The remaining wounds were treated with application of hot packs and administration of large doses of antibiotics. In 80 per cent of the cases, the offending organism proved to be a staphylococcus.

3. Outlet obstruction. Only two patients required re-operation for this complication. One of these had an atonic gastric stump and the other an early stricture at the gastrojejunostomy. In each case a further decompression operation was undertaken and both patients survived.

It is difficult at times to differentiate true stomal obstruction from temporary gastric atony, especially when vagotomy has been done or when gastric dilation occurs. Conservative therapy is indicated if there is any question as to the immediate problem. A total of 23 patients showed definite evidence of delayed emptying following their surgery and the two cases cited were the only ones requiring surgical correction. Gastric decompression, use of cholinergic drugs, and patience will generally solve the problem.

4. Unforeseen complications. Any one of a number of unassociated surgical diseases may arise during the immediate convalescence following any type of major surgery, e.g., acute cholecystitis, empyema, parotid abscess and prostatic obstruction. A survey of the hospital records indicates that in each case a moderate to severe degree of dehydration was present in each pation at the time of the appearance of the second disease. Perhaps this factor is a common denominator. Intensive vigilance during the postoperative period is mandatory. Recognition is imperative and the institution of immediate and proper surgical therapy is required. None of the patients subjected to a secondary operation for any of the unforeseen complications expired following their surgery.◀

Detailed History as Aid to Treatment of Allergic Patients

HENRY D. OGDEN, M.D.,* *New Orleans, Louisiana*

►*Before adequate treatment for an allergic state can be given, an accurate history must be taken to determine the chief complaints, symptoms of present illness, familial tendencies, past history, and any emotional problems. Since causes may be multiple in any one patient, discovery of these may be difficult.*◄

Allergy, in its broadest sense, refers to any altered reaction of the body to its environment which may follow exposure to an antigen. Since the causes may be multiple for any patient, discovery of the etiology and subsequent treatment can be extremely difficult. Patients who have specific allergies are the ones who have best hopes for control. The physician's ingenuity, skill, and patience can be taxed to the limit. A detailed history, including an accurate account of the patient's habits, environment, and activities, is most important.

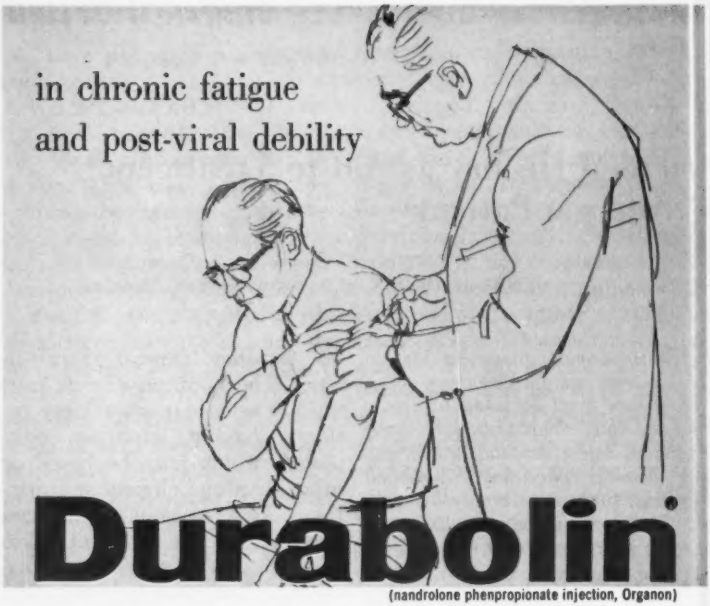
Allergic reactions are identified by their clinical characteristics. The symptoms range from mild to severe, many allergy patients having multiple complaints which may be based on more than one clinical sensitization. Also, various syndromes may be due to different allergens, e.g., hay fever due to ragweed, asthma due to house dust, and headaches caused by allergy to milk. This same patient may also develop urticaria when he is given penicillin.

*Clinical Assistant Professor, Department of Medicine, Louisiana State University School of Medicine.

Present Illness

A thorough detailed investigation of the patient's present illness should be undertaken. Important questions include the following:

1. When did each complaint first occur?
2. How long has it been actively present?
3. How often does it occur?
4. What are the seasonal, monthly, weekly, daily, and hourly variations?



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Chart adapted from Craig, P.: J. Okla. St. M.A. (June) 1960.

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Seasonal variations are quite common since many allergies are due to sensitivity to airborne antigens. Hay fever is in this category, as is atopic asthma. An example is the patient, allergic to a certain pollen, who has symptoms only during the spring. Perennial respiratory allergy is often associated with infection in many cases. Women may have flareups of their allergies before or during menstruation. The day of the week can be of importance; e.g., the patient who has symptoms only after eating fish on Friday. House dust allergics characteristically become worse when in bed.

A review of the systems should be done. Important questions to be asked are as follows:

1. Does the patient have chronic nasal symptoms, e.g., blockage, nasal discharge, sneezing, postnasal drip, itching of the nose, eyes, or pharynx?

2. What type of nasal discharge? Watery or mucous?

3. Is there a history of "sinus trouble"?

4. How often does the patient have earaches? Blockage of the Eustachian tubes may be a factor.

5. Is there specific involvement of the eyes such as itching, lacrimation, and hyperemia of the conjunctiva?

6. Does he have frequent sore throats?

7. How many "colds" each year? So-called "colds" may be manifestations of respiratory allergy.

8. Is there a cough?

9. Does the patient wheeze? Many patients do not like to admit that they have bronchial asthma. They will admit to wheezing, but rarely to *asthma.* In most patients, nasal symptoms precede asthma; on an average, asthma occurs after five years of nasal allergy.

10. Does the patient have headaches, particularly of the frontal type? Such headaches may often be associated with nasal allergy.

11. Is there a history of pruritus, hives, angio-edema, or eczema?

12. Has the patient ever had contact dermatitis (such as poison ivy), athlete's foot, ringworm, etc.?

13. Is there any complaint referable to the skin?

14. Is indigestion present at times?

15. Does the patient have nausea, vomiting, or abdominal pains?

16. Is there frequent diarrhea? Diarrhea is often a manifestation of gastrointestinal allergy.

17. Does the patient habitually take laxatives? Certain laxa-

tives, particularly the phenolphthalein group, have been shown to be potent sensitizers.

18. What medications does the patient take, e.g., analgesics, tonics, tranquilizers, hormones, douches, vitamins, contraceptives, etc.?

19. What drugs does the patient take for relief of symptoms?

20. How much is necessary for relief? Often, the amount taken will provide a good index of the severity of symptoms.

21. Has the patient ever had a comprehensive allergy survey, both a careful history and skin testing? The thorough allergist does not rely on skin tests alone. He has to feel sure that an antigen giving a positive reaction actually causes symptoms. A patient may have a positive skin reaction to a clinically nonimportant antigen. A negative skin test does not rule out the possibility of allergy. Some foods must be eaten in quantity before symptoms develop, and even then a negative skin test may be obtained. Therefore, it is necessary to correlate symptoms with exposure to the antigen.

22. If the patient has had an allergy survey, followed by treatment, what was his response?

23. What antigens were used in immunization?

24. What were the known causes?

25. What was the patient's response to exposure to house dust, animal hairs, clothing materials, feathers, soaps, cosmetics, insecticides, tobacco, flaxseed, cottonseed, smoke, etc.? Any direct exposure tests should be very cautious, since the patient may react with a violent reaction.

An effort should be made to distinguish between true sensitization, and symptoms which result from exposure to a substance which has a nonspecific irritant effect.

26. Is there any connection between the patient's symptoms and a certain act, e.g., cutting grass or spraying with an insecticide?

27. What was the response of the patient's exposure to various foods? Although inhalants provoke the majority of allergic reactions, foods should not be overlooked as a possible cause. The patient should be interrogated carefully regarding the dislike of various foods in addition to any known allergic reaction. It is helpful to enumerate many foods since most people have a tendency to forget.

A regular and thorough orthodox medical history should be taken at this time.

Past History

The usual past history should

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1. Crawford, O. B.: Anesthesiology 14:278, 1953. 2. Wiedling, S.: Xylocaine, The Pharmacological Basis For its Clinical Use, Stockholm, Almquist and Wiknell, 1959.

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be taken. Attempts should be made to find any history of previous allergic manifestations. The presence or absence of venereal diseases should be noted. The menstrual and marital history may also be of significance.

Family History

Allergy has a familial tendency. The type of hypersensitivity is not inherited but a family predisposition does exist. It should be determined whether there have been any manifestations of allergy in the parents, grandparents, brothers and sisters, uncles and aunts—even great grandparents. Various types of allergy should be named in detail. Other familial tendencies should be noted.

Social History

The social history should also be recorded. A complete, detailed history is important and emphasis should be placed on the following questions:

1. Does the patient smoke or drink?
2. Does he get a well-balanced diet?
3. Has he lost weight recently?
4. Does he ever have fever?
5. What is his occupation?
6. What does he come in contact with in his work?
7. What are his hobbies?
8. What is his home like? Old or new, etc.?
9. Are there any unusual contacts in his environment?

Emotional factors should be stressed at this time. Various sources of possible tension should be investigated. Work difficulties, finance, and family problems should be discussed. Important questions include:

1. Is the patient "nervous"?
2. Has he ever had treatment for a mental disorder?
3. Does he worry?
4. Is he a perfectionist?
5. Does he get into arguments?
6. If the patient is a woman, does she cry often?
7. Are there any mental quirks?
8. Is there hostility towards any person or group of persons?◀

D hydromorphinone: A Clinical Reappraisal

FREDERICK DORAN, M.D.,* *Boston, Massachusetts* and
ORLAND F. SMITH, M.D.,† *Pawtucket, Rhode Island*

► *n the vigorous search for new and better drugs, effective and longstanding ones are frequently overlooked or forgotten. This study indicated that the analgesic effect of dihydromorphinone was superior to that produced by most of the commonly used analgesics in the hospital where the study was conducted.*◄

Two hundred and two patients (132 private and 70 ward) were randomly selected from a busy surgical service and administered dihydromorphinone†† either pre- or postoperatively, or both. Each patient was queried regarding analgesic effect and side effects. Any patient unable to respond intelligently because of language barrier, incomprehension, irrationality, or state of consciousness was not included, nor were pediatric or obstetric patients. A small number of either inoperable or terminal cancer cases were included.

Age range was 19 to 84 years, a majority 50 to 70 years. There were 122 female and 80 male patients, and no significant difference was noted in the results between the two. The types of operations are as follows:

Dilation, Curettage, Cervical Biopsy	24
Hysterectomy, abdominal	9
Hysterectomy, vaginal	6
Cystocele repair	4
Breast biopsy or mastectomy	7
Colectomy	2
Oöphorectomy	6
Amputation	12
Hernia	21
Hemorrhoidectomy	12
Gastrectomy	9
Appendectomy	10
Saph. Lig. & Strip	5
Cholecystectomy	12
Nephrectomy	3
Transurethral resection	7
Cystoscopy & Pyelography	4
Prostatectomy	2
Arterial graft	4
Thoracotomy & Resection	2
Laminotomy	4
Meniscectomy	2
Thyroidectomy	2
Colostomy	3
Inoperable	8
Others	21

Preoperative Group

A total of 130 patients were given dihydromorphinone pre-

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††*Dilaudid*®, Knoll Pharmaceutical Company, Orange, New Jersey.

operatively, either alone or in combination with a barbiturate and/or a belladonna derivative. The dosages used were 1, 1.5 and 2 mg., adjusted according to the condition and age of the patient. The majority received 2 mg.

The criteria used to assess results were incidence of side actions, and degree of drowsiness, responsiveness, relaxation and apprehension.

No operations were canceled because of excess medication or undesirable reactions. In a small number of cases, a decreased amount of thiopental sodium (Pentothal) was required after preoperative dihydromorphinone medication. The drug was not used as an anesthetic adjunct except in only a very few instances, then intravenously with a local anesthetic in minor cases. It was difficult to distinguish a good from an excellent effect; but in the 10 patients listed as good, it was felt that their response indicated far more alertness than the larger group of patients. Those in the fair group exhibited some side effects. Only two patients made poor responses.

Of the 130 patients, 116 (89 per cent) had excellent response, 10 (eight per cent) had good response, and four (three per cent) had fair response. Because of the many variables involved, no attempt was made to analyze physiologic changes. Acording to the Anesthesia Service, however, there were only rare reactions, e.g., hypotension or decreased rate of respiration. Spinal, endotracheal and inhalation anesthesia were all satisfactorily induced in these patients.

Postoperative Group

A total of 140 patients were given 990 doses for from 1 to 18 days. In this period, dihydromorphinone was superior to other medications, producing more effective analgesia in a shorter period of time. (If a noticeable effect was not evident within 10 to 15 minutes, the response was classified as fair.) In addition, the drug caused fewer side effects and achieved effective analgesia at lower dosage levels than other drugs, thereby avoiding the dangerous respiratory and cardiovascular depression of high dosage.

Since we did not wish to allow ourselves a wide latitude in clinical evaluation, we set up our criteria (drowsiness, duration and degree of pain relief, incidence of side actions) as clearly as possible, so that all patients with anything but an excellent response would not be classified as such. Of the 140 patients, 114 (81 per cent) had excellent response, 19 (14 per cent) had good response, five (3.5 per

cent) had fair response, and two (1.5 per cent) had poor response. The responses classified as good were all quite desirable from the patients' and surgeons' viewpoint, but failed to meet our rigid standards of evaluation. In many cases, only moderate sweating or transient pruritus prevented a good response from being classified as excellent.

In addition to these, there were eight patients who were not operated on. These included inoperable and/or terminal cancer cases, or patients on a surgical service whose treatment was nonsurgical. The dose used in the postoperative or inoperable cases was the minimum amount necessary to achieve an excellent result, and was adjusted according to the needs of the patient. In the majority of cases 2 mg. was the optimum dose; but in some preliminary dosage was 1 or 1.5 mg., maintained or increased as needed. Very few patients required downward adjustment because of excessive hypnotic effect.

Side Effects

In general, side effects were less frequent and less severe than with other morphine derivatives and synthetic analgesics. Sweating was the most common side effect, occurring in 17 patients (eight per cent). Most of these patients did not feel that it was intolerable, and the degree of sweating rarely necessitated discontinuance of medication. Nausea was the second most common, occurring in 15 patients (seven per cent) either alone (three patients) or in association with other disturbances (12 patients). Vomiting occurred in 10 patients (five per cent), and required discontinuance. Vertigo was experienced by 13 patients (six per cent), and the drug was discontinued. Euphoria was felt by six patients (three per cent), but it was transient and did not necessitate discontinuance. Depression was difficult to estimate, but three patients (1.5 per cent) exhibited depressive episodes. Itching was noted by six patients (three per cent). Of this group, two described a fine, reddish rash which could not be seen by any trained observer.

Thus, a total of 43 patients (21 per cent) experienced side effects. Of these, 19 had two or more subjective or objective symptoms. In 27, the severiy of the side effect necessitated discontinuance of the drug. In the remaining 16, symptoms were minimal, and were elicited only after specific questioning.

In therapeutic doses, dihydromorphinone has little effect on pulse rate, pressure, respiratory rate and body temperature.[1] Addictive potentialities, as noted in

1. David, N. A., *J.A.M.A.*, 103:474-478,1934.

withdrawal studies, are less than with morphine.[2]

In our study, we found distinctly fewer side effects than have other investigators.[3] One investigator[1] noted itching in 53 per cent, vertigo in 61 per cent, nausea in 58 per cent, and vomiting in 20 per cent of his patients. Another investigator,[4] while not tabulating his results, described frequent side effects in his treatment of 38 individuals for upper respiratory disturbance. There is no explanation for this discrepancy other than the fact that neither pre- nor postoperative subjects tend to describe all of their symptoms (being more preoccupied with predominant ones), while normal experimental subjects certainly would.

Dosage

The dosage requirements per day for a period of five days are summarized as follows:

	A*	B†
Day of Operation	1.5	204
First	2.2	314
Second	1.3	188
Third	0.8	114
Fourth	0.4	58
Fifth	0.3	44

*A=Average number of doses daily.
†B=Total number of doses daily.

Of the 140 postoperative patients, 10 required medication beyond the fifth day (a total of 68 doses in 41 days), 26 for five or more days, 32 for four or more days, 57 for three or more days, and 82 for at least two days. Of those remaining, 132 required medication on the first day, and 121 required it on the day of operation. The discrepancy between the total of the 140 patients and the results is explained by the fact that some patients had medication only on the day of operation, and others only on the first day.

Administration must be individualized, but in a series of 202 patients, our low daily average doses seem significant. This was supported by our own impressions that patients generally required medication much less frequently than if they were receiving other, comparable analgesics. The requirements of an ideal analgesic would be a less frequent administration and adequate, prolonged effect. We feel that dihydromorphinone possesses these qualities. It was also our impression that the drug, given promptly in the initial postoperative period, decreases the total requirements. This is probably true of most analgesics, but from our observations of these patients, it was especially true of dihydromorphinone. This effect is brought about by alleviating initial muscle spasm and increasing tolerance to sudden inflammation or edema.

2. Seevers, M. H., *J. Pharmacol. & Exper. Therap.*, 56:157-165,1936.
3. Seevers, M. H., & Pfeiffer, C. C., *Pharmacol. & Exper. Therap.*, 56:166-187,1936.
4. Maloney, A. H., *J. National M.A.*, 29:49-54,1937.

Other investigators have reported on the use of other Dilaudid dosage forms[5] and in other types of patients.[6,7] We do not feel, therefore, that its use should be limited to the surgical patient.

Comments

The results obtained in our study compare favorably with other drug studies.[8] While this was not a comparison study, we gained the definite impression that the analgesic effect of Dilaudid, dose for dose, was superior to that produced by most of the commonly used analgesics in this hospital.

Dihydromorphinone is synthesized from morphine by conversion of one of the hydroxyl groups to a ketonic oxygen and hydrogenation to remove the adjacent double bond. This change increases the analgesic effect about five times. It is readily soluble in water and is available as liquid, powder, suppository, or tablet. It can be administered orally, subcutaneously, intramuscularly, intravenously, or rectally. The dosage range is from 1 to 4 mg., with an average of 2 mg., equivalent to 15 mg. of morphine. As an analgesic, dihydromorphinone's properties are similar to those of morphine, but it is less addicting, and has fewer side effects.

5. Donelson, K., *J. Michigan M. Soc.*, 50:61-64,1951.
6. Ruch, W. A., *Am. J. Obst. & Gynec.*, 35: 830-834,1938.
7. Smiley, W. L., *J. National M.A.*, 34:155-157,1942.
8. Prevosnik, S. J., & Eckenhoff, J. E., *Surg. Gynec. & Obst.*, 110:669-672,1960.

Summary

1. Dihydromorphinone hydrochloride (Dilaudid) was administered to 130 patients preoperatively and to 140 patients postoperatively. Of the preoperative group, 116 patients (89 per cent) had excellent results, 10 patients (eight per cent) had good results, and four patients (three per cent) had fair results. Of the postoperative patients, 114 (81 per cent) had excellent results, 19 patients (14 per cent) had good results, five patients (3.5 per cent) had fair results, and two patients (one per cent) had poor results.

2. Average number of daily doses postoperatively was on day of operation, 1.5; first day, 2.2; second day, 1.3; third day, 0.8; fourth day, 0.4; and fifth day, 1.3.

3. Side effects noted were sweating, eight per cent; nausea, seven per cent; vomiting, five per cent; vertigo, six per cent; euphoria, three per cent; depression, 1.5 per cent; and itching, three per cent.

In the vigorous search for new and better drugs, effective and longstanding ones are frequently overlooked or forgotten. This, we feel, has been the case with dihydromorphinone hydrochloride.◀

clinical report

Peptic Ulcer: Practical Regimen for Outpatients

J. ALFRED RIDER, M.D., PH.D.,*
HUGO C. MOELLER, M.D., PH.D., † and
BEATRICE BERTEAU, M.D.,†† *San Francisco, California*

►*Most outpatients with peptic ulcer did well on a regimen of bland diet, mild sedation and prolonged antacid therapy. The antacid in a form supplying high protein milk solids was especially effective for the bedtime dose for patients with night pain and as daily therapy for those needing to gain weight.*◄

The high rate of recurrence of peptic ulcer makes it a difficult therapeutic problem. Probably the most important measure for prevention of recurrence is the provision of adequate and prolonged neutralization of gastric juice. Some therapeutic failures are the result of not providing adequate antacid therapy in the belief that diet alone is sufficient for proper management. Strict diet actually plays a minor role in the management of patients with peptic ulcer. Another factor in failure of medical management is the patient's rebellion against a program that is too strict, with the result that no program is followed. A third cause of therapeutic failure is that, even though adequate antacids are given initially, they are not continued long enough to ensure complete healing and prevent recurrence.

A practical program for management of peptic ulcer patients must not only provide effective control of gastric acidity but must be one that patients are willing to follow for prolonged periods. The antacid used must be effective as an acid neutralizer and must be in a palatable, inexpensive, nonabsorbable, and convenient form. And, particularly important for patients having night pain, it should have prolonged action to decrease the

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number of doses needed for effective neutralization.

The purpose of this study was to evaluate a practical regimen including prolonged antacid therapy for outpatients with peptic ulcer. The antacid* used was administered as tablets, as a liquid, and as a powder fortified with milk solids. Each tablet of the antacid contained 240 mg. of aluminum hydroxide gel, 500 mg. of magnesium trisilicate, and 2.4 mg. of calcium phosphate. Each teaspoonful of the liquid form contained like amounts of each ingredient, while each tablespoonful of the powder contained 1 Gm. of aluminum hydroxide gel, 2 Gm. of magnesium trisilicate, and 12.5 Gm. of high protein milk solids.

Neutralizing Action Tested in Vitro

Test solutions were prepared by adding 50 ml. of 0.1 N HCl to 95 ml. of water in beakers kept at 37°C. in a serologic water bath. After pH readings of the test solutions were recorded, two crushed tablets of the antacid were added to one beaker, four crushed tablets to a second, 16 Gm. (one tablespoonful) of the powder to a third, and 2.0 Gm. aluminum hydroxide to a fourth, each being stirred continuously. The pH of each solution was measured on a Beckman Model G pH meter five, 10, and 15 minutes after addition of the drug, and then at 15-minute intervals for a total four-hour test period.

The pH of the acid solution containing the powder rose above 3.5 (no free acid) within five minutes and continued to rise, reaching a plateau in about an hour. The four-tablet solution reached a pH greater than 3.5 in about 15 minutes, the slope of this curve lagging behind that of the powder though the two curves were about the same after one hour. The two-tablet solution required an hour to reach the pH of 3.5 (reached in less than five minutes by the powder-containing solution.) The solution containing aluminum hydroxide never exhibited the same degree of rise in pH as did the other solutions.

Neutralizing Action Tested in Vivo

Criteria for selection of subjects for this determination were the presence of free HCl in each of four 15-minute collections of a one-hour basal gastric analysis and a level of at least 20 clinical units of free HCl in one or more of the four samples from the one-hour basal gastric analysis. At the end of the basal hour each subject was given either two or four tablets or one tablespoonful (16 Gm.) of the powder. Tablets were dissolved in 10 to 15 ml. of

*Gelusil®, Warner-Chilcott Laboratories, Morris Plains, New Jersey.

water and instilled into the stomach through a gastric tube, which was then rinsed with an additional 10 ml. of water. Powder was swallowed with the aid of small sips of water. Following administration of the drug, samples of the gastric contents (about 5 ml.) were aspirated at 15-minute intervals for a two-hour period. The pH of each sample was measured and compared with that of the four 15-minute specimens obtained from the basal hour.

Gastric acidity was effectively neutralized by two tablets in four of five subjects, but in none did the effect last as long as an hour. Four tablets neutralized gastric acidity in all of five subjects, neutralization in one subject lasting as long as an hour. The effect of the powder was more prolonged, there being effective neutralization in one subject for as long as two hours.

Clinical Study

The 85 patients comprising this study ranged in age from 15 to 79 years, the average being 55. There were 59 males and 26 females. Ulcers were duodenal in 59, gastric in 22, esophageal in two, and marginal in two. Patients were selected from those referred because of poor response to previously prescribed regimens for ulcer. In general these medical programs had been too unrestricted, and about 25 per cent of the patients complained of night pain.

Therapeutic Regimen

The duration of treatment ranged from three months to two years. Each patient was instructed to follow this program:

1. Diet initially of soft bland foods, similar to Sippy IV diet. After three or four weeks changed to full bland diet with two cooked fruits, two cooked vegetables, and lean meat.

2. Mild sedation in form of 16 mg. phenobarbital four times daily.

3. Continuation of anticholinergic drug if already part of regimen.

4. Milk or milk and cream *ad lib.*

5. The antacid in one or a combination of its three forms.

Dosage of the tablet form of the antacid, given to 43 patients, was two tablets every one or two hours initially. The maintenance dose, after three or four weeks, was two tablets in mid-morning, two in mid-afternoon, two an hour after the evening meal, and one tablespoonful of the powder or two more tablets at bedtime. The liquid, given to 37 patients, was taken in the same manner (two to four teaspoonfuls per dose), frequently with substitution of the powder at bedtime. The powder (one tablespoonful

TABLE 1

RESPONSE OF 85 PATIENTS WITH PEPTIC ULCER TO TREATMENT WITH *GELUSIL*

DOSAGE FORM	NUMBER OF PATIENTS	RESPONSE			
		EXCELLENT	GOOD	FAIR	NONE
Tablets alone	7	23	16	2	2
Tablets with powder	36				
Liquid alone	14	10	15	6	6
Liquid with powder	23				
Powder alone	5	5	—	—	—
TOTALS	85	38	31	8	8
		81%		19%	

per dose) was given in the same manner, including one dose at bedtime, to five patients.

The effect was considered excellent if the patient was asymptomatic, good if he had only occasional symptoms, and fair if he continued to have symptoms even though these were somewhat ameliorated. No effect was considered to have resulted if there was no relief of symptoms.

Response was judged good to excellent in 69 of the 85 patients (Table 1). The five patients who took the powder during the day as well as at bedtime had been underweight and all gained weight while under treatment. This is attributed to the additional 500 calories per day supplied in the dosage of the powder. Of the 59 patients treated with tablets or liquid during the day and the powder at bedtime, 16 had had night pain previous to therapy. After initiation of the bedtime therapy only two complained of persistence of night pain, requiring frequent administration of the medication during the night to obtain relief.

Side effects were infrequent. Only nine of the 85 patients complained of constipation, three of nausea, and one of diarrhea.

Conclusions

Bland diet, mild sedation, and administration of the antacid studied (Gelusil) every one to two hours initially and four times daily on a continuing basis is a practical therapeutic regimen for treatment of outpatients with peptic ulcer.

The fortified powder is valuable in management of night pain and has a beneficial nutritional effect as well.◀

clinical report

Clinical Effects of Methandrostenolone in Osteoporosis

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►*A new anabolic steroid relieved bone pain and produced a sense of well-being in 82 per cent of 50 patients with osteoporosis who were given this drug. Edema, noted in eight patients, was relieved by reduction of dosage and in four by concomitant administration of hydrochlorothiazide.*◄

The effects of certain steroid hormones in patients with osteoporosis were established by the classic work of Albright and Reifenstein.[1] These investigators demonstrated that the basic defect in this condition is failure of the body to utilize protein for building bone matrix. Their carefully controlled metabolic studies established that androgenic and estrogenic steroids possessed, in varying degrees, the ability to promote protein tissue building and anabolism. The absence of such steroids in postmenopausal women and in eunuchoid men predisposed the development of osteoporosis, but hormonal replacement readily induced clinical improvement.

Prolonged use of adrenal cortical hormones or their synthetic analogues may result in excessive breakdown of protein in all tissues, including the bone matrix. An extreme degree of destruction of protein in bone results in osteoporosis. With increasing numbers of patients being given corticosteroids for prolonged periods of time, the incidence of osteoporosis has increased.[2] A high calcium intake in these cases has met with disappointing results, since neither calcium nor other mineral elements of bone can be retained so long as the bone remains porous. It is imperative, therefore, that the protein matrix of bone be restored through the use of anabolic steroids.

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1. Reifenstein, E. C., Jr., & Albright, F., *J. Clin. Invest.*, 26:24-56,1947.

2. Boland, E. W., *J.A.M.A.*, 150:1281-1288, 1952.

Methods of Treatment

Many rheumatologists[3-5] have used a combination of androgens and estrogens in treatment of osteoporosis, but the sexual effects of these hormones limited their usefulness. Uterine bleeding occurred frequently in postmenopausal women on estrogen therapy, while deepening of the voice, baldness, hirsutism, and acne vulgaris appeared often during androgen therapy.

The ideal agent for treatment of osteoporosis would be one with maximum anabolic activity and minimum sexual effects. Studies on a new anabolic agent, methandrostenolone*, revealed that it possessed the dual properties of low androgenicity (one per cent of the androgenic potency of testosterone) and highest anabolic activity of all presently available agents.[6]

A preliminary survey of clinical results with methandrostenolone in 50 patients with osteoporosis (34 postmenopausal and 16 corticoid-induced), most of whom also had rheumatoid arthritis, was conducted. Patients ranged in age from 40 to 76 years. Diagnostic studies included roentgenograms of bones and appropriate laboratory determinations.

The average dosage of methandrostenolone was 5 mg. twice daily for six weeks, followed by a four-week rest period. When edema occurred, the daily dosage was reduced to 5 mg. and in some instances 50 mg. of hydrochlorothiazide† daily was added to the regimen.

Results

Clinical improvement observed in 41 (82 per cent) of the 50 patients during the first two months of therapy consisted of relief of pain in the spine and other bones, increase in strength and vigor, increased sense of well-being, feeling of mental alertness, and disappearance of symptoms of fatigue and listlessness. During the four-week rest period, many patients requested that medication be resumed.

Side Effects

Androgenic side effects occurred in only two patients. A slight hoarseness was noticed in one woman, and facial acne developed in another. Gastric distress occurred in two patients; one noted a feeling of bloating

**Dianabol®*, Ciba Pharmaceutical Products, Inc., Summit, New Jersey.

3. Bauer, W., in Cecil and Loeb, Textbook of Medicine, 10th Edition, Philadelphia, W. B. Saunders Co., 1952, Pp. 1388-1390.
4. Reifenstein, E. C., Jr., in Harrison, Principles of Internal Medicine, 3rd Edition, New York, McGraw-Hill Book Co., 1958. Pp. 664-671.
5. Bartter, F. C., *Am. J. Med.*, 22:797-806, 1957.
6. Smith, M., et al., *Practitioner*, 183:519-526, 1959.

†*Esidrix®*, Ciba Pharmaceutical Products, Inc., Summit, New Jersey.

and epigastric pain, and the second reported nausea.

The most common side effect was ankle edema, present in eight patients (16 per cent). When the dosage of methandrostenolone was reduced to 5 mg. daily, edema subsided in four of the eight patients. The remainder promptly responded to hydrochlorothiazide therapy in a dosage of 50 mg. daily.

Summary

1. In patients with osteoporosis, the clinical effects of a new anabolic agent, methandrostenolone (Dianabol), are presented in a preliminary report.

2. During the first two months of therapy, relief of pain occurred in 41 (82 per cent) of the 50 patients treated. Improved strength and vigor were noted by the majority.

3. Side effects included ankle edema in eight, gastric distress in two, hoarseness in one, and facial acne in one.

4. The low incidence of androgenic side effects and the initial therapeutic response to methandrostenolone warrant further clinical trials, which are presently being undertaken. Final results will be reported after a year's therapy is completed, serial roentgenograms being used to determine whether changes in bone density have occurred.◀

Staphylococcal Cross Infection Among Newborn: Hexachlorophene Dusting Powder for Control

An investigation of colonization of infants by Staphylococcus aureus showed that:

1. The incidence of cross infection was reduced by repeated application of hexachlorophene dusting powder to the umbilicus and front of the abdomen.

2. It was reduced still more by dusting the infants first in the labor room and by dusting the whole trunk, including groins, perineum and axillas.

3. Reduction in staphylococcal infection among infants was followed by a corresponding reduction among mothers.

4. Reducing contacts between infants and nurses' uniforms had no appreciable effect on cross infection.

5. No irritation of the skin or other harmful effects was seen from use of hexachlorophene powder on more than 1000 infants.

Simpson, K., & Tozer, R. C., *Brit. M.J.*, 1:315-317,1960.

Choosing a Coronary Vasodilator

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▶*Objective evaluation of various vasodilating agents by Windsor segmental plethysmograph (which accurately records the peripheral pulse volume) and by utilizing sublingual nitroglycerin as a standard, showed that erythrol tetranitrate administered orally, buccally, or sublingually was most effective.*◀

The most widely accepted means for the treatment of angina pectoris is the use of drugs purporting to have coronary vasodilating action. This concept of therapy arises from the well entrenched position established by nitroglycerin and its effect upon angina pectoris, which has been accepted as a therapeutic test for the disease itself. The universal use of nitroglycerin in the treatment of angina pectoris makes it the plausible yardstick against which to evaluate other drugs believed or hoped to possess similar actions. The search for substitutive or supplemental medication of this type is not so much for drugs with greater effectiveness, but for those which might be administered orally and have greater duration of action.

During the past 50 years the nitrites have been evaluated and re-evaluated clinically, and during the past several decades laboratory methods, chiefly electrocardiographic, have been used in the search for a new drug that might be more effective in the treatment of angina. The difficulty in reaching conclusions has been inherent in the investigative methods used.

The subjective methods of evaluation usually attempt to measure the number and frequency of anginal episodes, the effort tolerance of the patient, and the number of nitroglycerin tablets used daily by the patient.[1,2]

Placebo and double blind procedures have also been utilized in an attempt to make a subjec-

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1. Riseman, J. E. F., et al., *Circulation*, 17: 22-39,1958.
2. Fuller, H. L., & Kassel, L. E., *J.A.M.A.*, 159:1708-1713,1955.

tive method less subjective. Clinical methods, such as the determination of blood nitrates,[3] have provided as much information as determining the pH of blood to evaluate an antacid for peptic ulcer. Electrocardiographic means are also indirect since a machine which will demonstrate coronary vasodilation has not yet been made. The frequent variations in the ECG of a patient with coronary artery disease makes this a not entirely reliable method for determining pharmacologic action of this sort.[4]

Method of Study

Knowing that no vasodilator is selectively specific for the coronary vessels, vasodilation has been measured in more accessible blood vessels, such as those in the ankle, utilizing the Windsor segmental plethysmograph which accurately records the peripheral pulse volume, is highly sensitive to changes in pulse volume, and can be easily standardized.[5] With this method and sublingual nitroglycerin as a yardstick, the means are available for setting up an experiment graphically and objectively demonstrating time of onset of action, potency, and duration of effect of drugs commonly used for coronary vasodilation.

3. Berry, J. W., & Roach, T. C., *Circulation*, 17:1041,1958.
4. Hirshleifer, I., *Angiology*, 9:31-33,1958.
5. Winsor, T., *Angiology*, 8:87-101,1957.

Results

Nitroglycerin was invariably effective sublingually. Time of onset of action varied from two to four minutes. The maximum response usually occurred at 10 minutes and its vasodilating action was observed for 35 to 65 minutes, but the effectiveness began to drop rapidly 20 minutes after administration.

The sublingual disintegration time of hypodermic tablets of nitroglycerin ranged from 30 seconds to 15 minutes, with a mean of 2½ minutes, being more rapid in younger persons and those with abundant saliva. An anxious, agitated patient usually has a dry mouth and swallows frequently, leaving little for mucosal absorption. The presence of any foreign body in the mouth increases salivation and initiates a deglutition reflex. Certainly in the group with any prolongation of sublingual or buccosal tablet disintegration time, a large portion of the drug may be swallowed. This was established in tests in which it was possible to demonstrate comparable action and effectiveness for both oral and sublingual administration.[6]

Triethanolamine trinitrate biphosphate showed minimal pharmacodynamic effect in 2 to 8 mg. dosage, as did pentaerythritol tetranitrate at a dosage of less

6. Hirshleifer, I., *Am. J. Cardiol.* In press.

than 40 mg. The effectiveness of a slowly released nitroglycerin compound was not comparable to its nitroglycerin content. Papaverine 65 mg. and alcohol 45 ml. (in the form of 90-proof whiskey) exhibited a mild vasodilating action. Erythrol tetranitrate* administered orally, buccally, and sublingually, demonstrated an inherent potency, effectiveness, and duration of action comparing favorably with nitroglycerin and a duration of action varying between three and four hours.

Discussion

The described pharmacodynamic means[6] of evaluating drugs used for their coronary vasodilating effect in angina pectoris were developed because of the shortcomings of present-day methods of clinical investigation of this group of therapeutic agents. While this method determines only the vasodilating action of the drugs tested, ancillary effects of medications not necessarily elicited by these means should also be considered. Papaverine has analgesic properties, and alcohol certainly has this action plus the additional advantages of flavor and palatability.

Clinical evaluation of these drugs in private practice and in the cardiac clinic approximate objective plethysmographic results. Although headache is equally frequent with nitroglycerin and erythrol tetranitrate, it is a rare phenomenon with pentaerythritol tetranitrate in dosage of less than 40 mg.,[4] and has not been observed with triethanolamine trinitrate biphosphate. This side effect, or rather extension of action, of the nitrites is circumstantial evidence of their effectiveness. A nitrite compound is impotent if a percentage of the patients fail to develop cephalalgia. However undesirable this symptom, nitroglycerin has retained its place as the most effective drug in angina therapy. A therapeutically active drug with a small percentage of side effects is certainly preferable to an ineffectual preparation without untoward reaction.

Our results with amine oxidase inhibitors are at variance with those of other studies reporting anywhere from 64 to 97 per cent antianginal effectiveness.[7-9] These drugs are not without danger and should be used with caution in angina pectoris.[10] Our cases of angina pectoris were rarely improved by these drugs, and some cases became worse when their psychoener-

*Cardilate®, Burroughs Wellcome & Co., Tuckahoe, New York.

7. Shoskes, M., et al., *Circulation*, 20:17-24, 1959.
8. Master, A., *Am. Heart J.*, 56:570,1958.
9. Conference on Amine Oxidase Inhibitors, New York, Nov. 20-22,1958.
10. Jolly, E. R., *Circulation*, 20:3,1959.

gizing action increased activities both mentally and physically, causing a more acute awareness in these patients of their condition. Improvement with these drugs has been noted only in angina patients with no or doubtful laboratory substantiation of heart disease, or in cases in which other disorders might account for the symptoms.

Conclusions

1. A pharmacodynamic approach as an objective means of evaluating drugs purported to be effective in the treatment of angina pectoris is presented.

2. Sublingual and oral administration of nitroglycerin and erythrol tetranitrate are equal in their effectiveness in angina pectoris.

3. Erythrol tetranitrate exhibits an inherent long-acting vasodilating effect and is the drug of choice when selecting a coronary vasodilator for the treatment of angina pectoris where a sustained effect is desired. This is especially true in the prophylactic management of this disorder.◀

Tracheostomy in Management When Respiratory Muscles Fail

Tracheostomy, maintained for 3 days to 9 months in 10 patients aged 5 hours to 54 years having weakened or paralyzed respiratory muscles, was considered a major factor in the survival of 8. Usual manifestations of respiratory failure in such cases are increasing respiratory and pulse rates, slight to moderate rise in blood pressure, fatigue, poor tolerance to examination, and restlessness that is due to hypercapnia and contraindicates sedation. Tracheostomy in such patients facilitates removal of secretions and reduces the respiratory work load.

Some important features of the technique in such cases:

1. Use the operating room, with an anesthetist present.

2. Insert an intratracheal airway before operation, being ready to assist respiration and aspirate secretions.

3. Do not sever the cricoid cartilage.

4. If the patient will be in a respirator, place the tracheostomy high enough to come above its collar.

5. Select a tube that will not occupy the entire lumen, and suture or tie it in place.

Bradham, R. B., & Talbert, O. R., *Tri-State M.J.*, 8:11-14,1960.

Idiopathic Thrombocytopenic Purpura Treated with Dexamethasone

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▶*Administration of 2.25 mg. dexamethasone daily for 18 days for an acute exacerbation of idiopathic thrombocytopenic purpura produced a clinical and hematologic remission which has persisted for five months. The steroid may nullify activity of agglutinins and thus prolong survival of circulating platelets.*◀

In the idiopathic form of thrombocytopenia, the blood chemistry is normal except for decreased platelets in the peripheral blood.[1] Bleeding and clot-retraction times are prolonged and capillary fragility is increased while coagulation time usually is unaffected.[1,2] Although the range of variation is considerable, thrombocytopenia usually is clinically significant when the platelet count, normally 200,000 to 400,000/cu. mm., drops below 60,000. At this level there are usually minute hemorrhages into the skin, conjunctiva, or mucous membranes (purpura) with bleeding (which may be life-threatening) from the nose, mouth, or gastrointestinal tract.[1-3]

Method of Development

Any one of several mechanisms may critically lower platelet levels through impairment of production by the megakaryocytes or through increased destruction by the spleen.[1,4] The capillary fragility of thrombocytopenic purpura may be etiologic.[2]

Many authorities believe that a disturbed immunologic mechanism may be responsible for the idiopathic form of the disease.[1,4-10] The presence of circu-

1. Wells, B. B., Clinical Pathology, Second Edition. W. B. Saunders & Co., Philadelphia, 1956. Pp. 351-353.
2. Wintrobe, M. M., Clinical Hematology, Fourth Edition. Lea and Febiger, Philadelphia, 1956. Pp. 822-848.
3. Castle, W. B., in Cecil & Loeb, A Textbook of Medicine, Ninth Edition. W. B. Saunders & Co., Philadelphia, 1955. Pp. 1200-1201.
4. Harrington, W. J., et al., *Ann. Int. Med.*, 38:433-469,1953.
5. Dameshek, W., *Blood*, 11:384-390,1956.

lating antibodies (agglutinins) has been demonstrated in some chronically affected patients.[4,5] The agglutinizing factor can be transmitted through the placenta to children of thrombocytopenic mothers and the disease has been observed clinically in some of the offspring at birth.[2,4] It has also been possible to transmit the factor experimentally in transfused blood to normal subjects.[4] The theory that in many patients the disease occurs as a sensitivity reaction is supported by the fact that a few drugs can provoke thrombocytopenia in a significant number of patients.[2,3]

Many patients with acute idiopathic thrombocytopenic purpura recover spontaneously without recurrence; in others the process becomes chronic and is characterized by unpredictable exacerbations and remissions.[2,3,7,10]

Treatment Directed to Lowering Bleeding Tendency

Since there is no medical treatment which will consistently and permanently raise the platelet level, therapy is directed toward control of the bleeding manifestations and prevention of hemorrhagic crises. This has been accomplished most successfully through administration of the adrenal cortical steroids (ACTH, cortisone, or hydrocortisone) and prednisone or prednisolone.[1-15] A case is reported in which dexamethasone,* a new synthetic analogue of prednisolone with greatly increased potency, was used to treat an acute episode of chronic idiopathic thrombocytopenic purpura.

Case Report

A woman, 22, was first seen in 1950 because of petechiae and hemorrhages from the nose and throat. The platelet count was 25,000/cu. mm. The past history was noncontributory except for recent use of an unidentified compound for weight reduction. The diagnosis was idiopathic thrombocytopenic purpura, possibly induced by a drug which depressed the megakaryocytes. The patient was treated with biweekly injections of cortisone and repeated blood transfusions. Platelet count varied between 20,000 and 60,000 until early in 1952, when it reached 175,000; treatment was then discontinued. In March of that year the count was 80,000 and in September it was 250,000.

The patient had an uneventful pregnancy in 1953, with birth of a normal

6. Evans, R. S., & Liu, C. K., *Arch. Int. Med.*, 88:503-506,1951.
7. Stefanini, M., et al., *J.A.M.A.*, 149:647-653, 1952.
8. Stefanini, M., *Arch. Int. Med.*, 95:543-556, 1955.
9. Wintrobe, M. M., et al., *Arch. Int. Med.*, 88:310-336,1951.
10. Cooperberg, A. A., *Canad. M.A.J.*, 80:937-943,1959.

*Deronil®, Schering Corporation, Bloomfield, New Jersey.

11. Goodman, L. S., & Gilman, A., Pharmacologic Basis of Therapeutics, Second Edition, Macmillan Co., New York, 1956. P. 1680.
12. Greene, R. W., et al., *Am. J.M. Sc.*, 226: 203-213,1953.
13. Jacobson, B. M., & Sohier, W. D., *New England J. Med.*, 246:247-249,1952.
14. Stefanini, M., & Martino, N. B., *New England J. Med.*, 254:313-317,1956.
15. Wilson, S. J., & Eisemann, G., *Am. J. Med.*, 13:21-26,1952.

child. From late 1952 until early 1956 the platelet count ranged between 163,000 and 250,000. The patient was not seen during the following three years and apparently remained in remission.

In April of 1959 the patient was reexamined. There were no significant findings except areas of purpura. The spleen was not palpable. In June the platelet count was 60,000. Treatment with cortisone acetate, 25.0 mg. intramuscularly, and dexamethasone, 2.25 mg. daily in three divided doses, was begun. The platelet count began to rise immediately and 18 days later treatment was discontinued when the count was 265,000 cu. mm. In September the count was 275,000 and in November, almost five months after dexamethasone had been discontinued, the count was 250,000. The patient has remained under observation for 18 months. Blood platelet count in December, 1960, was still normal.

Discussion

Since the total amount of cortisone acetate, at 25.0 mg. daily, was only 150.0 mg., the rapid and apparently long-lasting remission can be attributed to administration of dexamethasone. The daily dosage of 2.25 mg. is equivalent in therapeutic activity to 15.0 mg. prednisone or prednisolone and at least 75.0 mg. cortisone or hydrocortisone.[16]

Prolonged remission after discontinuance of steroid therapy, such as occurred in this patient, while uncommon, has been reported previously.[10] Usually the response, although dramatic, does not persist for more than a week after the steroid has been withdrawn.[3,6,7,9,11,15] This form of therapy is best employed for acute cases, for acute exacerbations in chronic cases (as in this patient), and as preparation for elective splenectomy.[3,7,10-13] The risks of long-term maintenance management with adrenal cortical steroids are rarely warranted for this condition.

The striking control of bleeding which almost invariably follows administration of an adrenal cortical steroid is not necessarily accompanied by a rise in the platelet level.[1-3,7-14] The antihemorrhagic effect of steroid therapy may be due to increased capillary resistance occurring independently of the mechanisms which provoke variations in production or destruction of the platelets.[7,8,11,12]

There are several theories to account for the ability of adrenal cortical steroids to induce hematologic remissions. The rise in platelets could be due to an effect of the steroid which destroys or nullifies the activity of agglutinins[4,7,8] and thus prolongs survival of circulating platelets.[10] It is also possible that the steroid stimulates the megakaryocytes to form new platelets; this process compensates for but does not directly interfere with the original platelet-destroying process.[7-9]

16. Boland, E. W., *Ann. Rheum. Dis.*, 17:376-382,1958.

Summary

A case is presented in which administration of 2.25 mg. dexamethasone daily for 18 days for an acute exacerbation of idiopathic thrombocytopenic purpura produced a clinical and hematologic remission persisting to date (five months).◀

Rapid Immunization with Poliomyelitis Vaccine

A study of experimental dosage schedules of poliomyelitis vaccine has shown that a single dose of 10 ml. resulted in earlier and higher neutralizing-antibody levels to poliovirus than a dose of 1 ml. Field trial of poliomyelitis vaccine demonstrated a definite correlation between the antibody response and protection against paralytic poliomyelitis. After the use of certain lots of these vaccines having a defined antigenic effect of 75% or more, there were no reported cases of paralytic poliomyelitis. Fifty per cent effectiveness was reported for lots of vaccines given as a single dose just before one epidemic. Although one dose of vaccine given just before this epidemic was 50% effective, a single dose given during two other epidemics did not influence their course.

A course of three inoculations of current vaccine over a period of seven months has resulted in high protection and a high conversion rate, in contrast to a low protection and low antibody-conversion rate after one dose. For early protection (as would be desirable during or in the anticipation of epidemics) a single dose of an amount of antigen represented by 10 ml. of the vaccine studied would protect the majority of nonimmune persons, since they would rapidly respond with antibody. Use of a 10 ml. inoculation in over 64,000,000 persons indicates that the current vaccine is free from poliovirus capable of infecting man. Although inoculation of certain materials during asymptomatic poliomyelitis is considered capable of precipitating paralysis, there is no definite correlation with the volume of inoculum.

To achieve rapid immunization with poliomyelitis vaccine, increased amounts of antigen should be given in the primary inoculation. Until more information becomes available concerning the optimum amount of antigen required for initial immunization during epidemics, 10 ml. of current vaccine appears to be a reasonable choice for this purpose.

Baron, S., et al., *New England J. Med.*, 260: 966-969,1959.

Treatment of Dermatoses with Parenteral Methylprednisolone Acetate

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▶*Using an average of three intramuscular injections per patient, this medication produced improvement in 94 per cent of therapeutic trials conducted in 208 patients with various dermatoses. Intralesional injection produced excellent results in 32 of 33 trials in 30 patients, with good results in the remaining trial.*◀

Injection of medication is advantageous when oral therapy is contraindicated by gastrointestinal disease, when a patient cannot be trusted to take oral preparations, and when his return for necessary observation while on oral medication is doubtful. The development of a newer steroid suitable for intramuscular injection is therefore of interest and its clinical evaluation of importance.

Methylprednisolone acetate* in an aqueous suspension is designed for intramuscular, intra-articular, and intralesional administration. When injected intramuscularly, it apparently is active for one to 28 days, with an average effective period of 5 to 7 days.[1]

The purpose of this study was to determine whether or not methylprednisolone acetate was effective in the treatment of various dermatoses and to note the occurrence of any side effects. A secondary objective was to test its intralesional effectiveness.

Methods

A total of 238 patients, 92 men and 146 women aged 13 to 76 years, was treated for 22 different dermatoses. Two occurred in the same individual in nine patients, eight received two courses of intramuscular treatment for recurrence of the same disease, and one patient was treated intralesionally on four occasions for separate manifestations of his

*Depo-Medrol®, The Upjohn Company, Kalamazoo, Michigan.

1. Gibson, S. H., *Curr. Therap. Res.*, 1:122-129,1959.

TABLE 2

RESULTS OF TREATMENT WITH INTRALESIONAL METHYLPREDNISOLONE ACETATE

	Courses of Treatment	# of Injections	Length of Treatment	Results: Well or Almost Well	Results: Improved
Alopecia areata	10	2-6	3 wks.-5 mos.	10	
Lichen planus—hypertrophic	3	1	1 week	3	
Neurodermatitis (localized)	6	1-2	2 wks.-4 wks.	5	1
Nummular eczema	6	1	1 week	6	
Keloid	8	1-3	1 wk.-6 wks.	8	
TOTALS	33	1-6*		32 (97%)	1 (3%)

*Maximum number of injections any one patient received for his condition.

Improvement occurred following 94 per cent of these trials, complete or nearly complete healing following 73 per cent.

Thirty patients with five dermatoses received 33 courses of treatment with intralesional injections of the same preparation mixed with procaine. Improvement occurred in each instance and in 32 trials results were excellent.

It is concluded that parenteral methylprednisolone acetate is useful in the treatment of dermatoses when oral therapy is contraindicated or undesirable. It is also very valuable intralesionally when indicated.◀

Emergency Renal Surgery in Newborn Infants

Renal masses, occasionally discovered in the newborn infant, may be due to malignant tumors, cystic disease, infarction, or ureteropelvic obstruction. Other malignant retroperitoneal tumors should be considered in the differential diagnosis. Early exploration in any of these situations is advisable, particularly since the surgical risk is no greater in the first few days of life and in some cases early operation may be life saving.

Porter, A., & Landsteiner, E. K., *New England J. Med.*, 263:1-4,1960.

case report

Adrenal Insufficiency Due to Histoplasmosis

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►*Diagnosis in a man of 57 was based on history of postural hypotension, increasing fatigue, and a decrease in urinary 17-ketosteroids. A positive complement fixation test was considered confirmatory of the diagnosis of histoplasmosis. At autopsy the adrenals were completely destroyed by caseation necrosis.*◄

Adrenal involvement is more frequent in histoplasmosis than in the other systemic mycoses, and the possibility of histoplasmosis should be considered especially in persons who live or have lived in the Mississippi Valley. Although the adrenal glands are among the most frequently involved organs in histoplasmosis, few cases of adrenal insufficiency associated with this fungus disease have been reported. This was diagnosed recently in a patient on the basis of a history of postural hypotension, particularly on rising in the morning, increasing fatigue, and a decrease in the urinary 17-ketosteroids.

Early Symptoms

A man of 57, treated for hypertension for three years, noticed excessive fatigue which became progressively worse during the next three months, along with loss in weight (45 pounds) and anorexia. He had episodes of chills and fever, and a sharp left anterior chest pain, with dyspnea on slight exertion and near syncopal spells on arising each morning. He was brought home from work in near collapse, weak and short of breath. He was treated by his physician and told to confine himself to bed for a week, improvement being slight. On admission to hospital he was acutely and chronically ill, dyspneic on minimal exertion, had tachycardia, and P-2 greater than A-2. Scattered rhonchi were heard throughout the lung fields, liver margin was five inches below the costal margin, and slightly tender and irregular. Genital and rectal examinations were essentially negative. Hemoglobin was 13.8 gm., hematocrit 41%, white blood count 6400, dif. normal. Chest x-ray showed "in-

tensification of the perivascular shadows with more reaction on the left, and diffuse haziness in both lung fields. Atypical pneumonia or chronic granulomatous disease should be considered."

A smear revealed rare acid-fast bacilli, no growth on culture. Three weeks later, x-rays over both lung fields showed increased vascular markings, the clinical impression being far advanced pulmonary tuberculosis. INH and PAS therapy was continued. Six sputum smears done in the next month were all negative for acid-fast bacilli. A tuberculin skin test was negative to intermediate strength, 1 to 2 plus with .005 PPD strength. Histoplasmin, blastomycin, and coccidiodin skin tests were all negative, SR 19 mm. per hour, 23 per hour one month later. The Mazzini test was non-reactive.

Sputum contained an occasional gram-positive yeast-like organism, the whole yeast phase of histoplasmin being reactive 1:64, the histoplasmin antigen 1:16 and the blastomycin antigen 1:32. The temperature was normal in the morning, rising to 100 (occasionally 103°) in the afternoon. The patient left the hospital against advice.

Status on Readmission

After five weeks at home he was admitted to another hospital with a blood pressure of 100/70, pulse 78, weakly palpable but regular, and in a state of exhaustion. A scaly, erythematous skin lesion which had a butterfly distribution was present on the face, the chest was increased in A-P diameter, a few coarse, sticky rales heard in the right lower chest, and there was a profound weakness of all muscle groups in a symmetrical distribution. Hemoglobin was 14.1 gm., white cells were 5100, N 48, neutrophils 41, eosinophils 1, SR 38. Total protein was 6.7 gm. per 100 ml. blood, sputum negative for acid-fast bacilli and fungi; 17-ketosteroids were 3.6 mg. for 24 hours.

Complement fixation test for fungi were reported as: Histoplasmosis, reactive 1:256 for whole yeast phase antigen and reactive 1:128 for histoplasmin antigen; blastomycosis, reactive 1:32 for yeast phase antigen.

Nasal oxygen and INH were administered, but the patient became progressively weaker and expired after 12 days. At autopsy, the adrenals were completely destroyed by caseation necrosis. Positive cultures from autopsy material were not obtained; however, the finding of the organism in the adrenals, and the positive complement fixation test, reactive to the titer of 1:256 with the whole yeast phase antigen,

and to 1:128 with the histoplasmin antigen, were considered confirmatory of the diagnosis of histoplasmosis.

In the past there has been no specific therapy for histoplasmosis but recently Amphotericin B has shown promise in the treatment of this disease. With the decline of tuberculosis as a cause of adrenal insufficiency, histoplasmosis must be considered as a possibility.◀

J. Indiana M.A., 53:57-62,1960.

Steroid Therapy in Skin Disorders

Among the most useful agents introduced for topical dermatological therapy in the past 20 years are hydrocortisone and some of its derivatives. Since these agents are applied topically they rarely produce any systemic side effects. Skin diseases are controlled but not cured by these agents. The use of steroids is only one of many factors in management of a given skin disease. Many skin diseases, particularly the eczematous group, will respond to systemic or topical administration of steroids. Others such as pemphigus vulgaris, sarcoidosis, drug eruptions and urticaria, and those with systemic collagen diseases, may respond to systemic steroid therapy but not to topical therapy.

The higher the concentration of the steroid at its application site the more beneficial, although the difference in benefit between 1% and 2.5% hydrocortisone is slight. The lower the concentration of steroids administered intracutaneously the less atrophy of the skin. In oozing lesions the lotions are most effective, in intertriginous areas the creams and lotions. For most skin lesions the creams seem slightly superior.

More steroids are used topically in treating eczema than in all other skin diseases combined (25% of dermatologic patients have eczema). Eczematous eruptions most favorably affected are atopic dermatitis, infantile eczema, dyshidrosis, housewife's eczema, and neurodermatitis. Other therapy must be included in the treatment regimen. In most of the eczematous diseases daily application of steroids for weeks and even months after signs of the disease have disappeared are required. Although steroids given orally have a dramatic effect in severe contact dermatitis, they should not be given by this route in eczematous diseases.

Stoughton, R. B., *J.A.M.A.*, 170:1311-1315, 1959.

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Prognosis in Gastric Cancer

EDITORIAL, *Cancer Bulletin*

►*Incidence of gastric cancer development was 4.5 times greater in patients with achlorhydria or hypochlorhydria, and 21.9 times greater in patients with pernicious anemia than in a comparable segment of the normal population. These patients should have x-rays at regular intervals of six to nine months.*◄

Probably the most significant factor is the stage of disease when therapy is instituted. Continued improvement requires early detection of the disease. Helpful information in diagnosis includes evidence from survey studies that gastric carcinoma occurs most frequently in males beyond 45.

There may be a familial predisposition to gastric cancer.

Of over 12,000 persons having undergone a screening test over a period of 10 years to determine which ones would be likely to develop gastric cancer, those over 50 with either a deficiency in gastric acid secretion or with pernicious anemia have had subsequent periodic radiologic examinations. It was found that the incidence of gastric cancer development was 4.5 times greater in patients with achlorhydria or hypochlorhydria, and 21.9 times greater in patients with pernicious anemia than in a comparable segment of the normal population.

There has been no cancer development in 5532 patients with normal HCl, while 42 of the combined groups developed cancer (24 of these having been asymptomatic at the time of diagnosis). Of these 24, 12 are living and well, five having survived for five years. Of 18 patients with symptoms at the time of diagnosis, 7 are alive.

Pernicious anemia patients should have gastrointestinal roentgenograms made at intervals of six months and those with achlorhydria at intervals of from nine to 12 months.

Although these findings are helpful in the early detection in a small number of patients, most patients will be symptomatic

when first examined. Early symptoms are nebulous, and may be attributed to an emotional source. All indications of gastric carcinoma occur with other illnesses. Significance of persistent symptoms of gastrointestinal dysfunction has been emphasized, those cases requiring gastric acid level and sedimentation rate determination as well as thorough x-ray examinations of the stomach, duodenum and colon. X-ray study can help to detect most gastric lesions.

The most important diagnostic adjuncts are gastroscopy and cytologic examination, their greatest value being differential diagnosis of a visible lesion. Biopsy made during gastroscopy may provide a means of definite diagnosis. The most frequent error in gastroscopic diagnosis is failure to see the lesion, but errors in interpretation are also common. Identification of a cancer is not often missed, but benign lesions are sometimes wrongly called cancerous.

Cytologic diagnosis has reputedly attained a high degree of reliability. Surgical exploration has been considered desirable for any male patient past age 40 with persistent symptoms of gastrointestinal dysfunction, even if no lesion is discernible on roentgenograms.

In one-fourth of patients with visible lesions, differential diagnosis is difficult or impossible. Excision of any tumor evident on roentgenograms is frequently recommended because most such lesions have subsequently been proved malignant. In a review of preoperative diagnoses of 37 patients having undergone intensive study, diagnosis had been cancer in 19, gastric ulcer in 11, duodenal ulcer in three, and marginal ulcer in one. All of these patients subsequently were shown to have cancer. If there is no evidence of malignant disease besides ulcer, a trial of medical management is frequently recommended for a period of three weeks. Healing of the lesion must be evident on x-ray pictures by the end of this period, and the patient regularly examined until all signs of a lesion have disappeared. Many cancer patients have histories strikingly like those of patients with peptic ulcer, even to the extent of marked response to medical therapy.

The total 5-year cure rate for patients with gastric carcinoma is less than 10%. All possibilities should be considered before a patient with gastric carcinoma is dismissed.◄

Cancer Bull., 5:82-85,1959.

Surgical vs. Irradiation Treatment of Malignant Neoplasms of the Eyelids

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►*Although the ocular patient need not be hospitalized for radiotherapy, the disability and loss of time he may suffer from post-irradiation complications make surgical excision preferable. Surgery yields better structural and functional results with less discomfort, tissue damage, or malignant recurrence.*◄

The fact that most general surgeons and a number of eye surgeons continue to refer patients afflicted with malignant disease of the eyelids to the radiotherapist, and the fact that some of the serious disasters of radiotherapy of the eyelids are not widely known, prompt a comparison of the results of surgery with radiotherapy.

Superiority of Surgical Technique

For a quarter of a century most authors have favored irradiation. In even the larger works for postgraduates, there is a notable absence of comment about the serious ocular complications which sometimes follow irradiation. It has been argued in favor of radiotherapy that the patient may be treated as an outpatient. No comment is made about the uneconomic loss of time, the protracted suffering, and the ultimate disability caused by some intractable post-irradiational complications which may require attendance at an eye outpatient department for months and even years, often with admission to hospital for long periods of time.

Some changes in the texture of the skin and subcutaneous tissues at the site of irradiation are inevitable after irradiation. Severe degrees of irradiational damage result in cicatricial ectropion with impairment of lid mobility and exposure of the eye. Some irradiated scars become chronically painful and require excision and grafting on to a base rendered disadvantageous by vascular damage and fibrosis. An indolent ulcer may oc-

cur in an irradiated area, particularly at the medial canthus; the surrounding tissue being too damaged to support a free full-thickness skin graft, the cosmetically less desirable pedicle has to be used. Necrosis of part or the whole of the full thickness of the lid may follow irradiation. Carcinoma has been induced by irradiational treatment of the skin of the eyelids and face for sycosis.

Irradiation at the medial canthus leads inevitably to the firm occlusion of the puncta, canaliculi, and all or most of the lumen of the lacrimal sac and naso-lacrimal duct, so that permanent epiphora is the patient's fate. In the case of surgical excision of a neoplasm at this site with the sacrifice of the lower canaliculus, tear drainage may be established either by transplantation of the upper punctum and canaliculus, or by conjunctivo-dacryocystostomy, where the mobilized fundus of the lacrimal sac is opened and sutured in the lacus lacrimalis.

Post-irradiational superficial punctate keratitis may continue for 2 or 3 years. It is impossible to achieve adequate protection of the lens by a lead contact mould set in the conjunctival sac, for x-rays fired either obliquely or transversely at a neoplasm involving a canthus will out-flank such a protective device. Iridocyclitis and complicated glaucoma may follow irradiation, and occasionally lead to the loss of the eye.

By surgical excision eradication of the neoplasm is more certain than with irradiation, and the incidence of recurrence after surgery is rarer than after irradiation.

Skill a Determining Factor

Surgical treatment initially gives more successful results than surgery of a recurrence after irradiation. The structure and the function of a surgically reconstructed eyelid is more natural and mobile than after irradiation. After the first dressing there is no discomfort, whereas this is not the case after irradiation. Surgery does not damage adjacent tissues and is not followed by ocular complications. General surgical books, presumably mindful of scars made by grosser suturing, stress the deformity which may be seen after surgical attention; this accusation is unjustified by results following careful reconstructive technique.

The skilled radiotherapist may justifiably plead that his many successes are comparable to surgical successes, and that the failures which may occur in units where there is defective judgement, skill, and experience are



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comparable to the unsatisfactory results produced by a surgeon unskilled in reconstructive work. However, serious irradiational complications are worse than surgical failures and considerably more difficult to remedy.

Summary

In surgical treatment of malignant neoplasms of the eyelids, the healing is quicker and cleaner, and the structural and functional results better than after irradiation. The incidence of recurrence of the malignant neoplasm is materially less after adequate surgery than after irradiation, and there are no serious ocular complications.◀

Brit. J. Ophth., 43:159-168,1959.

Toilet Training and Enuresis

A retrospective inquiry concerning toilet training was undertaken into 165 "wet" families comprising 225 enuretic children and 174 dry siblings, the findings from which were compared with 174 "dry" families containing 384 children as controls. The age at which "potting" began was virtually the same in the enuretics, dry siblings, and controls (30% under three months, 42% three to nine months, and 28% over nine months). Strict methods were adopted in a minority of children, but were more prevalent if training began below the age of three months and more common in enuretics who were first-born or "only" children. Later-born enuretics were not trained more strictly than their dry siblings or the controls. For these reasons, then, it is doubtful whether coercive training is an important factor in the production of enuresis. Children trained in the later period (over nine months) were handled leniently as a rule, but no difference in this respect was found between the enuretic and control groups, indicating that lax methods were likewise not more conducive to enuresis.

Enuresis was found less often among those trained very early. Strict training was more often associated with resistance, both active and passive, in all children. Enuretics resisted much more often than the controls even if training had been lenient. Most resistance was encountered if potting began after three months of age. This resistance may be more closely related to enuresis than to early training even though coercive methods played some part in producing it.

Dimson, S. B., *Brit. M.J.*, 2:666-670,1959.

Corticosteroids in the Treatment of Rheumatic Disorders

F. DUDLEY HART, M.D., *London, England*

►*Daily dose should be kept as low as possible, with adjustment according to response. Rest, analgesics, and splinting should be used whenever possible instead of steroids. Patients will develop features of Cushing's syndrome over a period of time and dyspepsia is also likely to occur during prolonged steroid therapy.*◄

Corticotrophin and cortisone and its analogues are used in selected cases of rheumatoid arthritis, rheumatic fever, gout, Reiter's disease, Brodie's disease, ankylosing spondylitis, psoriatic arthropathy, the arthropathy of ulcerative colitis, and the so-called "pararheumatic" disorders, i.e., systemic (disseminated) lupus erythematosus, polyarteritis nodosa, scleroderma, dermatomyositis, and cranial temporal arteritis. In all these disorders symptomatic relief in varying degree is afforded. The indications for the use of corticosteroids and the contraindications to it in these different disorders are in some measure a matter of individual opinion, but certain facts have been established through experience.

Comparative Potencies

With the exception of corticotrophin, which is given by intramuscular injection, the usual route of administration is by mouth. The tablets in common use are 25 mg. cortisone acetate, 20 mg. cortisol, 5 mg. prednisone and prednisolone, 4 mg. triamcinolone and methyl prednisolone, and 0.5 mg. dexamethasone. These doses are very roughly equivalent and exert the same action on inflamed tissues except for dexamethasone, where the equivalent dose is probably 0.75-1.0 mg. For continued day-to-day long-term suppressive therapy in rheumatoid arthritis, it is considered safer not to exceed three tablets as a regular daily dose with cortisone, cortisol, prednisolone, and prednisone. Although larger dosage may be permissible over short periods, con-

tinued therapy for weeks or months will in time produce undesirable side effects even at this conservative dose level. The daily dose should be kept as low as is reasonably possible.

A good deal of trial and error is required. What suits one patient admirably may not suit another. There is no particular reason for giving a smaller dose of a stronger substance if the effect is virtually the same.

The practical advantages of prednisone, prednisolone, triamcinolone, methyl prednisolone, and dexamethasone are that they cause less retention of sodium, and therefore of water, than do cortisone or cortisol. Moon facies, gastrointestinal disturbances, mental upsets, osteoporosis, and other features of Cushing's syndrome occur with all of the preparations in about the same incidence.

Hydrocortisone acetate, hydrocortisone or prednisolone tertiary butyl acetate, and prednisolone trimethyl acetate have about the same milligram-for-milligram effectiveness when given by intra-articular injection. The relief obtained via this route may be for a few hours only, for days, weeks, or very occasionally months.

Evaluation of Uses

The steroids have not replaced salicylates in the treatment of rheumatic fever. In a joint cooperative study of 12 centers in the United States, Canada, and the United Kingdom, little difference was found in the cardiac condition one year after the completion of six weeks' treatment with cortisone, corticotrophin, or aspirin. Treatment with set doses of corticotrophin or cortisone resulted in more rapid control of certain acute manifestations, but there was an increased tendency for these to reappear on stopping therapy in the patients continuing to be treated with steroids.

In rheumatoid arthritis, cortisone and its analogues do not cure, but merely suppress, the active features. They also affect many other systems of the body to a greater or lesser degree and have a wide and variable effect on the patient as well as on the arthritis. It is therefore important to keep steroid therapy in reserve unless the course without it is progressively downhill and unsatisfactory in spite of a proper program of adequate rest, analgesics, and splinting.

Almost absolute contraindications are peptic ulceration and psychosis, relative ones diabetes mellitus and active tuberculosis. Steroid therapy should never be begun because the subject cannot rest enough or will not take sufficient time off work.

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In polyartheritis nodosa and systemic lupus erythematosus the same dosage rules apply as with rheumatoid arthritis, but higher dosage is permissible and occasionally absolutely necessary. A close watch must be kept for signs of intercurrent infection and suitable antibiotic therapy rapidly instituted at the first such sign. There is no evidence that the natural history of these disorders is fundamentally altered by steroid therapy, and renal disease in the later stages is unaffected. Dosage, as with rheumatoid arthritis, should be as low as possible. The dangers of sudden withdrawal or too rapid reduction of dose are great. So-called "side" effects, i.e., features of Cushing's syndrome, may be expected if adrenocortical hormones are given in pharmacologic rather than physiologic doses to patients with intact adrenal glands. Dyspepsia, with or without peptic ulceration, is an even greater drawback to this form of therapy.◀

Brit. M.J., 1:493-496,1960.

Mumps Meningo-Encephalitis

Of 50 cases of mumps meningo-encephalitis, 39 occurred in one year when there was a mumps epidemic. Diagnosis in all cases was confirmed by complement-fixation tests using V (viral) and S (soluble) antigens. Boys were more commonly affected than girls and 84% of the cases occurred in children under 15 years. The principal clinical features were fever, headache, neck rigidity, and vomiting, with or without salivary-gland involvement, which occurred in only 54% of the cases. About one-third of the patients showed signs of encephalitis, one of which was of the postinfective type.

The peak incidence occurred in the late spring and early summer months, and there was no difference in the seasonal incidence of mumps meningo-encephalitis with parotitis and mumps meningo-encephalitis without parotitis. Mumps virus infection was more readily transmitted by patients with parotitis than by patients without enlarged salivary glands.

A followup study of a number of patients was done, the absence of serious sequelae in this series suggesting that a good prognosis may usually be given in mumps meningo-encephalitis.

Murray, H. G. S., et al., *Brit. M.J.*, 1:1850-1853,1960.

Fat, Calcium, and Coronary Disease

One of the most important nutritional problems at present relates to the possibility that a high intake of animal fat directly or indirectly promotes ischemic heart disease. Population groups suitable for study in this connection are those who live to a large extent on milk. Such groups are available in Somaliland and Eritrea, nomads who subsist throughout much of the year almost entirely on milk from goats, camels, and sheep. Some individuals consume 2½, 4 and even 9 liters of milk daily, with a fat content of 135, 216, and 486 gm., respectively. An investigation of the serum cholesterol levels, incidence of severe arterial lesions, and mortality from coronary heart disease among these people would prove enlightening.

The contributions of calcium from the volumes cited are about 3, 5 and 11 gm. daily, respectively. Among the Bantu, calcium intake, serum calcium levels, and intensity of aortic calcification are low in comparison with corresponding data on the white population. Thus it may be that a low intake of calcium might have a retarding effect on coronary heart disease.

Walker, A. R. P., *Brit. M.J.*, 1:1660,1960.

The "Common Cold"

Statistical analysis of 400 consecutive universtiy students coming for treatment of "a cold" showed that "viral-type" upper respiratory infections could readily be identified in 84%. Of the 400, 258 (64.5%) had an early-diagnosable symptom-sign complex of sore throat and/or cough, temperature up to 99.6°, and pharyngeal lymphoid hyperplasia and/or inflamed throat, and another 77 (19.3%) had similar symptoms but normal-appearing throats. Duration of illness before seeking medical advice varied from less than 1 to over 30 days, 67% presenting themselves within 3 days after onset of symptoms. Most students (62.25%) had not attempted self-treatment except some form of salicylate. The problem of treatment is not solved. Whereas treatment in septic pharyngitis, tonsillitis, etc., is obvious, it is obscure in virus upper respiratory disease. Evolution of resistant microorganisms has only compounded the problem.

Rose, K. D., *Nebraska M.J.*, 45:263-268,1960.

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Low Sodium Diet in Congestive Heart Failure

Limitation of sodium in the diet will promote the absorption of fluids poor in sodium and the dilution of the serum sodium concentration. Decreased concentrations at the capillary barriers will be equilibrated by the passage of sodium from the extracellular fluid back into the circulating plasma. Offered to the renal tubules, the diminished sodium load will promote a water diuresis and facilitate the excretion of sodium. Thus, the total body sodium will tend to diminish, and the signs and symptoms of congestive heart failure will be ameliorated.

If a diuretic is added which will produce a sodium diuresis, cardiac compensation can usually be reestablished and the fluid compartments can be restored to normal volume and composition. Diuretic agents, e.g., resins, may act to prevent the absorption of sodium from the gastrointestinal tract; they may modify the elaboration of urine in such a way as to induce the excretion of sodium, as in the case of mineral diuretics; or they may predispose the renal tubules against the reabsorption of sodium, as with the carbonic anhydrase inhibitors.

The dangers of long-continued sodium restriction are few and infrequent, unless vomiting or diarrhea has produced great loss of fluid and electrolytes. In its most critical form, the result is an acute reduction in plasma volume, with circulatory collapse. Disturbances of acid-base balance should be prevented by frequent determinations of serum electrolytes, particularly when the decompensation is of long duration and the depletion of the tissue sodium marked.

Farnsworth, E. B., *Illinois M.J.*, 118:33-35, 1960.

Diet, Blood Lipids, and Vascular Disease in Trappist Monks

Foods in the daily diet of the monks included cereal (wheat, oats or rice, including large amounts of a heavy whole-wheat bread), potatoes, beans, peas and other vegetables, fruit, including bananas, oranges, apples, dates and prunes, gelatin, chocolate pudding, spaghetti, milk (1½ pints per man daily), cheese (2 oz. per man weekly), butter (½ oz.), cottonseed oil, and 1 cupful of cocoa per man daily. Eggs were served only to men ill in the infirmary.

The average daily diet per man was 2470 calories: carbohydrate 352 gm., protein 98.2 gm., fat 74.5 gm. with adequate vitamins and minerals. All the essential amino acids were present in adequate

amounts. The diets of the Trappists were not considered low in fat, though quite low in animal fat.

The blood cholesterol in the monks averaged considerably lower than that of healthy men of comparable ages in Cleveland. Arterial hypertension was more frequent in them than in other men of the same age in the United States population generally. There is evidence that high cholesterol levels accelerate the progress of cardiovascular degeneration and arterial hypertension. It does not necessarily follow that, in the average person, diets low in animal fat are beneficial.

Diets low in animal fat and associated with relatively low serum cholesterol levels over a long period of years are not sufficient in themselves to offset the advance of cardiovascular degeneration and arterial hypertension.

McCullagh, E. P., & Lewis, L. A., *New England J. Med.*, 263:569-574,1960.

Normal Systolic Murmur

According to various estimates, 5 to 15% of normal persons have heart murmurs audible through the stethoscope. Recordings were made on a cathode-ray oscilloscope on 71 healthy adults, none having a murmur audible on ordinary stethoscope examination. When at rest and supine, all had murmurs that extended through ¼ or more of systole and were reproducible on repeated tracings. Intensities varied from day to day, with phases of respiration, with changes in position, and with exercise. These systolic sounds may represent a universal functional murmur that is usually subaudible. Using the same technique, murmurs presumably arising from shunts unique to fetal circulation were found in 19 of 25 fetal hearts examined during the last trimester.

Groom, D., et al., *Ann. Int. Med.*, 52:134-144, 1960.

Migraine Headache Simulated by Intracranial Hemangioma

A man of 33 who had suffered from migraine headaches for many years despite intensive psychotherapy was admitted for examination because of a change in the distribution of the headache and the appearance of dizziness. Findings indicated incomplete right oculomotor nerve paresis and right abducens palsy, suggesting intracranial aneurysm or neoplasm. At operation a vermiform vascular anomaly was found under the right cerebellar lobe. The patient died several days after this was resected, microscopic diagnosis being arteriovenous angioma.

Rovito, D. A., & Mandel, M. M., *Delaware M.J.*, 32:118-119,1960.

Hiatus Hernia

Two types of this syndrome may be distinguished: paraesophageal and sliding. In the first, a knuckle of the fundus of the stomach herniates above the hiatus inside the esophagus; the esophago-gastric opening is usually below the diaphragm. In the second, the cardia of the stomach lies above the diaphragm. Prominent symptoms in 40 cases were xyphoid lump in 11, esophagitis in 7, coronary in 11, ulcer in 11, anemia in 4, and functional indigestion in 14. Concomitant diseases were duodenal ulcer in 6, gastric ulcer in 2, gallbladder disease in 2, esophageal diverticulum in 2, and symptomatic heart disease in 3. One patient had gastric and duodenal ulceration.

The objective diagnosis is most often by x-ray. The finding of a hiatus hernia does not mean hernial disease, but, where symptoms are highly suggestive, it is best not to abandon the diagnosis because of a negative x-ray.

The surgeon is more concerned with eradication of the hernia; the internist with a patient living comfortably with it, if possible. In general, the symptoms are not so severe as to be worth the price in money, inconvenience, risk (mortality of operation is about 3%), and morbidity of a wide thoracotomy.

Poe, W. D., *Virginia M. Month.*, 87:324-329, 1960.

Myasthenia Gravis after Excision of Thymoma

A woman of 61 was referred for removal of a mediastinal mass disclosed by routine chest x-ray. She gave a history of moderate dyspnea of effort but not of muscle weakness. A cystic tumor diagnosed histologically as thymoma was excised. Myasthenic symptoms appeared about 8 months later. Treatment with anticholinesterase drugs being unsatisfactory, deep x-ray therapy was added but her condition remained poor and she collapsed suddenly with respiratory failure, dying 6 days later despite therapy with artificial respiration, edrophonium chloride (Tensilon) and antibiotics. Postmortem examination revealed scattered patches of consolidation in both lungs and a mass of fatty tissue containing remnants of thymic tissue in the superior mediastinum.

Robertson, P. D., *Scottish M.J.*, 5:162-163,1960.

Objective of Fracture Treatment

Although it is customary to assess the success of surgical procedures for femoral fractures statistically, e.g., that only 3 to 4% treated by intramedullary nail become infected, such figures become misleading since the results of any failure may be so crippling that no surgeon would lightly subject a patient to such a risk. The object of treatment of a long bone fracture is to restore the limb to full functional activity. To achieve this object the broken bone fragments must be placed in apposition and in reasonable alignment, and immobilized until union is sound. This can be achieved either by manipulation and external splinting, or by operation with or without internal fixation. Much more acute alignment can usually be obtained by operation than by manipulation.

Experience in the treatment of fractures shows that for most long bones accurate re-alignment of the fragments is not necessary for the restoration of full function. In most of these fractures satisfactory alignment can be obtained by simple manipulation, or by manipulation and traction. When satisfactory position has been obtained, the fragments must be immobilized in this position until union is sound. External splinting properly applied prevents the recurrence of angulation or rotation, while overlap can be prevented by continuous traction. This form of traction has been condemned as a potent cause of non-union, but if applied so as not to distract it is less frequently associated with non-union than is internal fixation.

The indications for open reduction and for internal fixation in these fractures are:

1. Inability to obtain by manipulation alignment consistent with the restoration of good function. This may be due to the interposition of soft tissues between the fragments, or the necessity of obtaining completely accurate reduction as in fractures of the forearm.

2. Inability to maintain satisfactory position by external splinting with or without continuous traction, a difficulty again most obvious in fractures of the radia and ulna where no form of external splint will maintain position. In the other long bone fractures internal fixation is not necessary to maintain that position.

3. To allow earlier mobilization of the joints, especially the knee-joint in femoral shaft fractures.

Unless the internal fixation is by intramedullary nail, joint immobilization is necessary for as



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long as or even longer than with conservative measures. Even with the intramedullary nail, an equal range of joint movement is recovered after conservative treatment, although a much longer time is necessary. Internal fixation never assists union of a fracture, and although it may not interfere with union it always exposes the patient to additional risk.

Holdsworth, F. W., *Proc. Roy. Soc. Med.*, 52:860-861,1960.

Cancer Cells in Blood Stream

Arbitrary division of 328 patients with malignant disease was made into 105 "curable" and 223 "incurable," 24 of the former and 73 of the latter having cancer cells in the peripheral blood. The positives were somewhat more for blood samples from veins draining the tumor. Patients with incurable cancer of the gastrointestinal tract had cancer cells in the peripheral blood, those with curable disease showed no cancer cells in the blood stream. The liver may destroy cancer cells brought to it in the portal flow, and when this capacity for destruction is overcome the patient is no longer curable. Failure to find cancer cells in the blood does not mean that the lesion is operable. Serial blood samples were drawn at frequent intervals before, during, and after various operative procedures. Showers of cancer cells were isolated during such procedures as dilation and curettage of the uterus, hysterectomy, laparotomy, radical mastectomy, nephrectomy, and various excisional procedures. It is suggested that no manipulation be made, diagnostic or operative, which might cause showers of cells to enter the portal circulation.

Long, L., et al., *Arch. Surg.*, 80:639-645,1960.

Meckel's Diverticulum

This may be the cause of intestinal obstruction, intussusception, hemorrhage or perforation and may contain gastric mucosa, pancreatic tissue, or carcinoid tumor. In 20 patients (16 males) aged 3 months to 35 years, all these complications were seen. One patient suffered acute diverticulitis, abscess formation, intestinal obstruction, and perforation. At least one diverticulum contained aberrant gastric mucosa, and one contained carcinoid tumor. Commonly misdiagnosed as appendicitis, Meckel's diverticulum should be searched for at the performance of every laparotomy, in the absence of definite contraindications; if found it should be excised if good judgment permits.

Moskovitz, W. S., et al., *A.M.A. Arch. Surg.* 81:36,1960.

Circulatory Effects of Nylidrin Hydrochloride

This agent (Arlidin) was given to 25 ambulatory patients, aged 30 to 74, with intermittent claudication and other symptoms of ischemia of the limbs associated with arteriosclerosis. In all patients, studies of circulation to the peripheral muscular areas were made before and after 5 mg. of nylidrin intramuscularly or intravenously. In addition 20 patients were given the drug orally, 6 mg. three times daily, to determine if side effects would occur. Clearance of I^{131} from muscle was definitely increased and calf muscle flow, measured plethysomographically, was increased in the majority (maximum increase was 2.5 times the control).

After experimental studies in 10 rabbits which showed that the drug was an effective vasodilator of the cerebral blood vessels, it was administered to 25 patients with evidences of cerebral vascular insufficiency. Symptoms such as vertigo, mental confusion or diplopia and murmurs over the carotid arteries were improved.

Patients occasionally complained of palpitation with the oral medication, but this did not appear detrimental in any case. None had postural hypotension, gastrointestinal symptoms, thrombosis at the site of injection or evidence of venous irritation.

Winsor, T., et al., *Am. J.M. Sc.* 239:594-600, 1960.

Nasal Decongestant as Adjuvant in Pollinosis

A preparation combining a sympathomimetic drug and 2 antihistamines (Triaminic) was used for symptomatic relief during treatment of pollinosis in 128 patients. Usual dosage was 1 timed-release tablet twice daily, each containing 50 mg. phenylpropanolamine HCl, 25 mg. pheniramine maleate, and 25 mg. pyrilamine maleate. During the preceding allergy season, 79 of these 128 patients had been treated with a single antihistamine, response being good in 9 (11.2%) and fair in 64 (81%). Response to the new decongestant was much more satisfactory, being good in 122 (95.3%) and fair in 2 (1.6%). Side effects rated as moderate were noted in 3 patients (2.3%) and as minimal in 35 (27.4%), none being noted in the other 90 (70.3%).

Siegel, C., *Minnesota Med.*, 43:460-462,1960.

Antibacterial Action of Serum After Ingestion of Novobiocin or Tetracycline or Both

The antibiotics were in capsules with labeled contents as follows: novobiocin sodium, 250 mg.; tetracycline phosphate complex, 250 mg. (tetracycline HCl equivalent); and a mixture of tetracycline phosphate complex 250 mg., combined with novobiocin sodium, 125 mg. Eight normal young men, varying in weight from 68 to 86 (average 75) kg., were given, in a double Latin-square rotation, 4 single doses at 5-day intervals as follows: 750 mg. (3 capsules) of novobiocin; 500 mg. (2 capsules) of novobiocin in combination with 250 mg. (1 capsule) of tetracycline; a mixture of 500 mg. of tetracycline and 250 mg. of novobiocin (2 capsules); and 750 mg. (3 capsules) of tetracycline.

One week later, all subjects received an additional single capsule of 250 mg. of novobiocin, each dose in the morning fasting, and blood was obtained before breakfast and again 2, 4, 6, 12, and 24 hours later; breakfast was taken after the 2-hour specimen. The serum from each blood was separated as soon as feasible and divided into 2 rubber-stoppered tubes, stored at -20° C. and kept frozen until used for the assays. One set of serums was assayed for antibacterial activity by a 2-fold dilution method in broth, using 4 test organisms. All serums obtained from the same subject were tested simultaneously.

There was no indication of any synergistic action of novobiocin with tetracycline. At best the combined action may be interpreted as additive or indifferent as to *in vitro* susceptibility of the test strains. Against the organisms that were resistant to one or the other of the pair, no increased activity resulted in the serum from the administration of these antibiotics together, especially when the dose contained a larger amount of the antibiotic to which the test organism was resistant. Significantly less activity was produced in the serum against the tetracycline-resistant Staph. 400, when 500 mg. of tetracycline was given with 250 mg. of novobiocin, than when the 250 mg. of novobiocin was given alone. Such differences were also evident in the agar-diffusion assays, in which the depressing effect of 500 mg. of tetracycline on the novobiocin level was statistically significant. However, no direct comparison was possible to validate a possible depressing effect of the administered novobiocin on the tetracycline activity of serum.

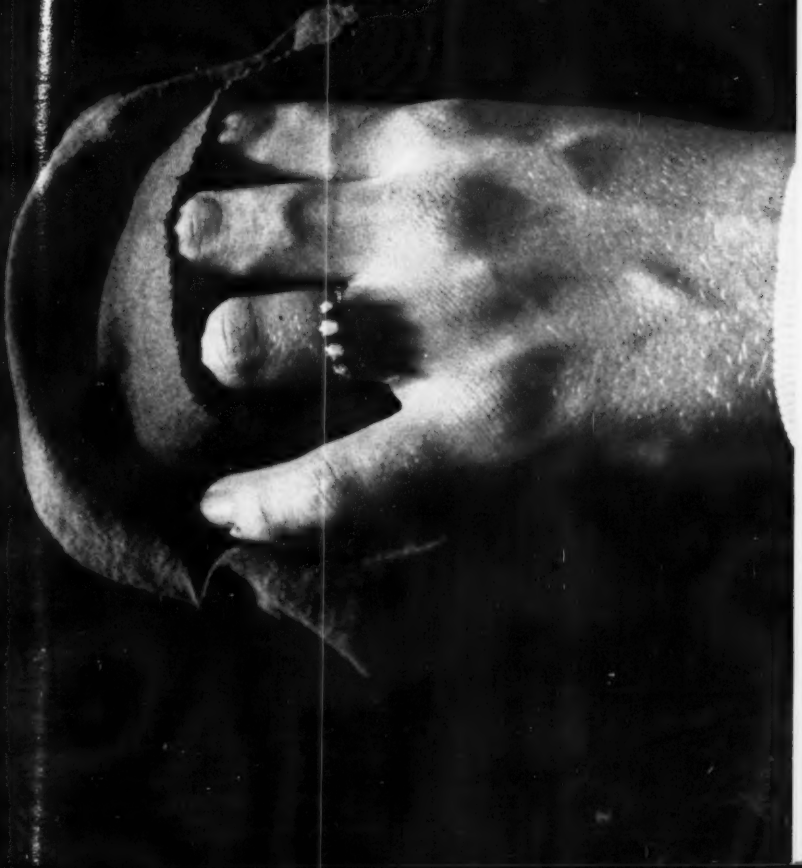
Hirsch, H. A., et al., *New England J. Med.*, 262:209-214,1960.

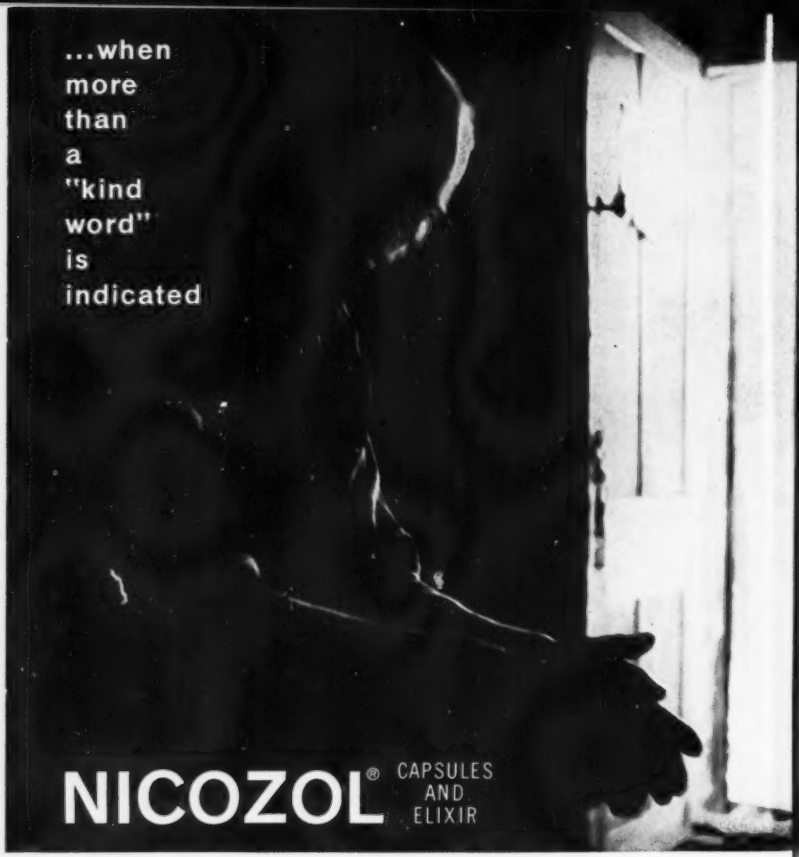
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In the "aging" patient, Nicozol brightens the outlook...helps overcome lassitude and fatigue, thus improves mental and physical well-being • improves mental acuity • reduces confusion and disorientation—without excitation, depression or other untoward effects.

Supplied: A pleasant-tasting Elixir, with lactated pepsin base, in bottles of 1 pint and 1 gallon. Capsules, green and white, in bottles of 100, 500, and 1000.

Dosage: Elixir—One-half to one teaspoonful (5 cc.) three times daily. Capsules—one to two capsules three times daily.

Write for professional sample and literature.

Each teaspoonful (5 cc.) of Elixir contains:
Pentylenetetrazol.... 200 mg
Niacin..... 100 mg
Each capsule contains:
Pentylenetetrazol.... 100 mg
Niacin..... 50 mg

DRUG SPECIALTIES, INC.
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Refer to PDR

Clinical Evaluation of Treponema Pallidum Immobilization Test

Indications for the Reiter protein complement fixation test, using a specific treponemal antigen, are to distinguish biologic false positive reactions from true positive tests for syphilis, and to prove the diagnosis of syphilis in those with clinical evidence of the disease, but who have negative routine blood and spinal fluid tests. This latter indication is based on the premise that 2 antibodies appear in luetic serum, the nonspecific reagin and the treponemal immobilizing reagin. As a rule, the nonspecific reagin appears earlier but disappears more promptly than the specific reagin in the course of syphilis.

Contrary to general opinion, treponemal immobilizing reagin may disappear earlier than nonspecific reagin. In one case, after pregnancy, the routine serologic test findings reverted to negative, one after a biologic false positive reaction was proved, showed asymptomatic disseminated lupus erythematosus by further labaratory studies. This group, the chronic biologic reactors, should be followed for evidence of collagen disease.

About 40% of the positive serologic test for syphilis reactors who are discovered each year as a result of routine serologic surveys do not have syphilis. Females develop the false positive reaction more frequently than males. The physician must examine such patients very carefully, electrophoretic patterns, SR's, blood counts and urinalyses being included. The patient should be advised to seek medical care readily. Excessive exposure to sunlight should be avoided. Skill is required if these things are to be done without making the patient neurotic.

Rausch, N. G., *New York J. Med.*, 60:401-403, 1960.

Gouty Arthritis: Clinical Diagnosis

Review of 45 proven cases revealed an average lapse of 3 years between onset and diagnosis. All but 4 of these 45 patients were men. Age at onset ranged from 22 to 77 years, averaging 45.8. More than one joint was involved in 24 patients. Although the first metatarsal-phalangeal was the joint most frequently in-

volved, in 8 patients (18%) this joint was never affected. The initial fasting serum uric acid level of these 45 patients averaged 7.61 mg.% but for 5 patients was less than 5 mg.%. Of these 5, 4 had been taking steroids or phenylbutisone, agents known to lower serum uric acid.

Aids in diagnosis:

1. Remember the frequency of multiple joint involvement.

2. Salient clinical features include suddenness of onset, severity and disabling character of the pain, tenderness, and tendency of pain to be most severe at night.

3. A fasting serum uric acid level higher than 6 mg.% is suspicious, particularly if the blood urea nitrogen is normal.

4. Dramatic response to colchicine is characteristic.

Cornish, A. L., *J. Kentucky M.A.*, 58:707-709, 1960.

Primary Non-Specific Ulceration of Small Intestine

This is a disease entity of unknown etiology in which there is an ulcer (or ulcers) of the jejunum or ileum. It can occur at any age, most patients being 30 to 60, and 75% being men. The ulcer, solitary in 81% of cases, is a punched-out, rounded lesion, 3 mm. to 2½ cm. in diameter with a smooth base. The diagnosis has rarely been made preoperatively. Perforation, obstruction, or hemorrhage have already occurred by the time the physician is called, and the disease is not considered in the differential diagnosis. Complications, which usually cause the patient to seek medical assistance, include bowel perforation and obstruction, massive hemorrhage, or some combination of the 3. Demonstration by x-rays is extremely rare. No attempt at medical management has been reported. The complications make surgical therapy vitally necessary.

A girl of 16 with a 4-year history of occult blood in stools complained of intermittent aching in different areas of the abdomen, which had no relation to eating or position and did not respond to medication. At exploratory laparotomy 3 feet from the ileocecal valve, a 3-inch section of dilated ileum was found with a transverse ulceration. A foot of ileum was resected and an end-to-end anastomosis performed. The microscopic findings revealed chronic ulceration. The postoperative course was uneventful and repeated stool guaiac tests were negative. The patient was discharged on the seventh day. Eight months later she felt well and stools continued to be negative for occult blood.

Horwitz, F., et al., *J. Mt. Sinai Hosp.*, 27:308-312,1960.

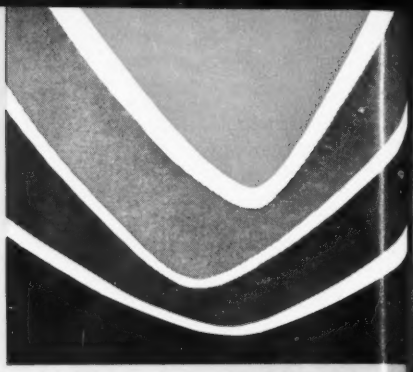
Doctors and the Law

CHARLES J. FRANKEL, M.D., L.L.B., *Editor*

►*Can county medical society exclude from membership, under rule for membership requiring four years of study at medical college approved by the A.M.A., a person who is fully licensed to practice medicine and surgery?*◄

This question was passed on by the New Jersey Superior Court, Law Division, in *Falcone* vs *Middlesex County Medical Society*, 162 A. (2d) 324 (1960). Plaintiff received degree of Doctor of Osteopathy from Philadelphia College of Osteopathy, a school which is recognized by State Board of Medical Examiners but which is not a medical college approved by the A.M.A. Plaintiff passed the State Board medical examination and was granted license entitling him to same rights and privileges as those of doctors having degree of Doctor of Medicine. The next year he attended Medical College of the University of Milan, Italy, a medical school approved by the A.M.A., which gave him academic credit for his work at Philadelphia College of Osteopathy and, after one year's study, granted him degree of Doctor of Medicine. After entering practice in county, plaintiff was admitted to defendant society as associate member. During period of associate membership plaintiff was member of medical staffs of two hospitals. At time when plaintiff was being considered for active membership, society learned of his osteopathic background which had not been indicated on his applications. Plaintiff was denied membership under rule for membership requiring four years of study at medical college approved by the A.M.A. The two hospitals terminated plaintiff's staff memberships under their rules making membership in defendant society a condition of staff membership.

Defendant contended it was voluntary association and, as such, had right to determine its membership without judicial interference. The Court said that



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- Trichomonas vaginalis
- Candida albicans (Monilia)
- Hemophilus vaginalis
- Non-specific leukorrhea

WHAT IS TRIMAGILL?

Trimagill is presented as a powder for insufflation and as dry, non-greasy vaginal inserts containing Tartaric Acid, Citric Acid, Boric Acid, Dextrose, Potassium Bitartrate, Potassium Alum, and Adhesives.

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Pathogenic micro-organisms that cause vaginal infections are incapable of surviving or propagating in a low pH environment. Trimagill produces and maintains a vaginal pH of 2.0 to 2.5—thus, infecting organisms are destroyed because an unfavorable environment is created.

TRIMAGILL IS EFFECTIVE!

Trimagill's low pH favors the growth of beneficial Döderlein bacilli and helps restore vaginal flora following infections. *Unlike antibiotics Trimagill does not foster monilia overgrowth. Resistant strains cannot develop.*

TRIMAGILL IS PRACTICAL AND CONVENIENT!

Trimagill Powder adheres to the vaginal mucosa for several hours *—eliminates need for vaginal and introital packs or external pads.* Trimagill Powder is easily applied during office visits; Trimagill Vaginal Inserts are recommended for patient use between office visits.

UNINTERRUPTED MEDICATION!

Trimagill treatment may safely be continued during menstruation thus preventing the normal physiological change from an acid to an alkaline pH.

TRIMAGILL IS SAFE!

No untoward reactions have been reported in over 3,000 cases treated to date. The combination of ingredients in Trimagill produces an unusually low pH *with emollient properties that prevent irritation of mucous membranes.*

TRIMAGILL IS PROVED BY CLINICAL EXPERIENCE!

Published papers† representing years of clinical experience in over 3,000 patients demonstrate the effectiveness and safety of Trimagill. Trimagill was used successfully in these cases primarily for acidification of the vaginal tract in treatment of vaginal infections. It was also used and is recommended as a non-absorbable agent following conization of the cervix to help eliminate postoperative sloughing, perineal odor, absorb secretion and maintain an acid pH.

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As Powder: 5 oz. Plastic Insufflator Bottles; *As Vaginal Inserts:* Boxes of 24. NOTE: Consult package circular for full details on instructions for use of both Powder and Vaginal Inserts.

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†Reprints of published papers available on request.

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precedent indicates that courts have been reluctant to interfere in internal affairs of voluntary organizations. It has been held that a court may not compel individual's admission into voluntary medical society no matter how arbitrary his exclusion may be. In some cases involving expulsion or suspension from membership, courts have afforded relief under theory that person once admitted to membership has contract or property right. The Court said this distinction between expulsions and exclusions from voluntary organizations is one of fiction, rather than one of substance, because loss to one excluded from organization may be as great or greater, than loss to one expelled therefrom.

The Court said that, since New Jersey had no precedent concerning exclusions or expulsions from medical societies, it was of the opinion that proper rule is that where organization is in fact involuntary and/or is of such nature that court should intervene to protect public, and where exclusion results in substantial injury, court will grant relief, provided such exclusion was contrary to organization's own laws, was without procedural safeguards, or application of organization's particular law was contrary to public policy. It is clear from the record that defendant society, combined with the other component parts of state medical society and the A.M.A., has virtually monopolistic control of the practice of medicine, the effect of which is to prevent nonmembers from practicing medicine in the overwhelming majority of state's hospitals. Defendant society's monopolistic control of the practice of medicine in the county necessarily carries with it certain public responsibilities which it may not escape by designating itself as a private, voluntary association. The Court said that defendant society is an involuntary organization clothed with such public responsibilities that its actions are subject to judicial scrutiny.

Plaintiff who while associate member of defendant society engaged in surgical and obstetrical fields has suffered substantial injury as result of exclusion from defendant society. In addition to injury to his reputation incidental to removal from a professional organization, he suffered injury of being expelled from medical staffs of two hospitals with which he previously had an active professional association. Further, since all accredited hospitals in area require membership in defendant society as prerequisite to staff membership, he

is effectively excluded from all accredited hospitals. Plaintiff needs hospital privileges to carry on his practice successfully and it is thus clear that his exclusion from membership in defendant society has caused, and will cause, him financial loss.

Defendant's rule, which limits membership to those who have had four years of study in medical college approved by the A.M.A., as applied to plaintiff, contravenes state's public policy. State has granted graduates of Philadelphia College of Osteopathy, who pass required examination, privilege of practicing medicine to the fullest extent. Defendant, through its monopolistic organization, prevents them from exercising that privilege. It is in the state's interest that all physicians and surgeons be given the opportunity to prove their qualifications to a hospital without first having to establish membership in defendant society as basic qualification for opportunity to display their talents as physicians. Defendant society has blatantly interposed itself as intermediary between the licensed physician and a hospital, an action which is offensive to state's public policy. If defendant wishes to maintain its monopolistic hold on practice of medicine, it must admit all doctors duly licensed by state who meet reasonable requirements; a rule barring graduates of school approved by State Board of Medical Examiners is unreasonable.

Defendant society argued that it was hospitals, not the society, that required that staff members belong to local medical society. The Court said it was clear from the record that the hospitals impose the requirement in order to remain accredited institutions which is necessary for their continued existence. Without approval of Joint Commission on Accreditation of Hospitals, which body is controlled by doctors who must, necessarily, be members of a local medical society, accreditation would be withdrawn, their ability to attract interns and residents would be seriously impaired and purpose for which hospitals were created would be defeated.

►*Is hospitalization insurer liable for expenses incurred in connection with compensable injury if Division of Workmen's Compensation denied compensation therefor because not authorized by employer?*◄

The New Jersey Supreme Court passed on this question in *Hunt* vs *Hospital Service Plan of New Jersey*, 162 A. (2d) 561 (1960). Insured, who was injured in course of employment, incurred hospital expenses in connection with injury. Division

of Workmen's Compensation held that these expenses were not compensable because services were not furnished by employer but were arranged for by employee. Plaintiff, employee's husband, here seeks to recover such expenses under family coverage hospitalization policy. Defendant insurer contended it was not liable because of policy clause excluding coverage for services which are compensable, in whole or in part, under any state workmen's compensation law.

The Court said there were two possible interpretations of "compensable" as word is used in policy. One interpretation, that advanced by defendant, is that it connotes expenses of type compensable under Workmen's Compensation Act and defendant argues that, under such construction it is of no importance that, because of some additional technical condition, employer is not liable for payment. Other view is that "compensable" means that services not only must be of type covered by compensation act but must, in fact, qualify and require payment by employer.

The policy, said the Court, fairly breathes, as its basic motive in excluding such compensable services, a desire to avoid double payment of insured's bills. Accordingly, the more reasonable choice of alternative constructions of policy is that it excludes only those services which are, in fact, compensable, that is, those which in the particular case require an order directing their payment as compensation under the terms and conditions of workmen's compensation act and are actually paid pursuant thereto. The Court said that in compensable cases primary obligation to provide and pay for medical and hospital treatment is on employer and hospitalization plans should not be called upon to pay for the care where employer's liability in fact exists under the conditions laid down by the legislature. It is now provided by statute that, if plan pays expenses in compensable case, it has right to be reimbursed out of compensation award. But just as hospitalization plans are entitled to reimbursement where they have satisfied another's obligation, so too they should be required to provide benefits paid for by their insured unless it cannot be said through any fair interpretation of policy's language that condition, on which exclusion of liability is predicated, does not exist. If insurer's intention was to bar hospital or medical expenses made necessary by injury arising out of and

in course of insured's employment, it would have been very simple to use appropriate unambiguous words to accomplish such result.

►*Can osteopath be found guilty of malpractice if, while treating cut in patient's eyelid, he failed to discover cut in eye itself directly beneath cut in eyelid?*◄

The Supreme Court of Iowa had this question before it in *Wheatley* vs *Heideman*, 102 N.W. (2d) 343 (1960). Plaintiff who was two years old, injured her eye while playing in her parents' farmyard. There was a cut in the eyelid about one-fourth inch in length and fat tissue about the size of a pea protruded from it. Plaintiff's mother immediately took her to defendant osteopath who pushed protruding tissue back into wound in the eyelid, cleansed and sterilized it, applied a local anesthetic, took three stitches in incision, bandaged it and prescribed some ointment. After tissue had been pushed back into wound, plaintiff was placed on treatment table, her arms under her sides, a towel wrapped around her to restrain her, and defendant, his nurse, and plaintiff's mother held plaintiff. Defendant, with aid of 100-watt light, then attempted to examine eyeball to see if it was injured. Defendant testified that because of plaintiff's struggling he got only fleeting glimpses of the eyeball. After plaintiff had been treated by defendant for three weeks, her parents took her to eye specialist who found a cut in eye itself directly beneath the cut in the lid. Sight could not be restored to the eye and it was removed.

Plaintiff contended defendant was negligent in failing to discover true condition of plaintiff's eye and that, because of this, his treatment was inadequate and improper and was proximate cause of loss of eye. The Court said that malpractice may consist of lack of skill or care in diagnosis as well as in treatment. Patient is entitled to such thorough and careful examination as his condition and attending circumstances will permit, with such diligence and methods of diagnosis as are usually approved and practiced by doctors of same school of medicine, of ordinary learning, judgment and skill, under like circumstances and in like localities. There was expert testimony that injuries such as plaintiff's are visible to the naked eye. The Court said the jury was not required to accept as adequate defendant's excuse that he failed to see the cut in plaintiff's eye because she wiggled so strenuously it was impossible for him to examine the eye. Plaintiff was restrained by

the towel and three adults and, if she could be kept sufficiently quiet so defendant could insert needle in her eyelid six times in putting in stitches, jury could find that by exercise of requisite skill and care he could have raised the eyelid, looked at the eye and observed cut. There was also, said the Court, substantial evidence that defendant's negligence was proximate cause of loss of plaintiff's eye. Expert witnesses, who had examined plaintiff's eye, testified that, in their opinion, eye would have been saved by immediate treatment.

►*Is manufacturer of Salk vaccine, which contained live poliomyelitis virus, liable to those who contracted poliomyelitis following inoculation with such vaccine, on theory that there was breech of warranty of fitness for intended purpose, even though doctor's inoculation of patient with vaccine is not considered sale of vaccine?*◄

This question was passed on by the California District Court of Appeal, First District, Division 2, in *Gottsdanker* vs *Cutter Laboratories,* 6 Cal. Rptr. 320 (1960). Following inoculation by doctor with Salk vaccine manufactured by defendant, which doctor had purchased from pharmacy in sealed ampule, plaintiff contracted poliomyelitis. There was substantial evidence to support finding that vaccine contained live poliomyelitis virus which caused plaintiff to contract disease.

Plaintiff contended defendant was liable because of breach of implied warranty that vaccine was fit for its intended purpose. Defendant argued that manufacturer cannot be held liable for breach of implied warranty because there was no direct sale from it to plaintiff. The Court said that general rule is that a direct sale from defendant to plaintiff is requirement for liability under theory of breach of implied warranty. However, in some jurisdictions, of which California is one, there is exception where product is food for human consumption; in such cases, it is held that manufacturer or initial seller may be liable to ultimate consumer even though there have been intermediate sales by one or more dealers. The Court said that, since California accepted exception as to consumer of food products, there was no reason to apply different reason to vaccine here involved because it, like food products, is designed solely for introduction into human body. Fact that entry is made by injection rather than ingestion in no way alters premise that each enters human system. Therefore, fact that there was no direct

sale by defendant to plaintiff does not bar recovery under theory of breach of implied warranty.

Defendant argued that, even if direct sale is not required, there is actionable implied warranty only if plaintiff himself is a purchaser and that doctor's inoculation of patient was not sale of vaccine. The Court said that, although manufacturer of food or drugs is not liable as warrantor unless he has made a sale, there is no reason for holding that he escapes liability because ultimate consumer, whose use of product is the essential consideration in its manufacture, is not a purchaser under a contract of sale. Clearly, the patient, not the doctor, is ultimate consumer of vaccine and initial sale is sufficient to impose responsibility upon manufacturer of fulfilling implied warranties which run to benefit of persons manufacturer intended to be, and who in fact became, the consumers.

Defendant further argued that public policy will best be served by denying recovery in warranty for "new" drugs, because development of medicines will be retarded if manufacturers are held to strict liability for their defects. The Court said that, although this argument might have merit if warranty involved had to do with mere failure of a medicine to cure or a vaccine to prevent, it is of little weight where, as here, warranty is limited to an assurance that product will not actively cause very disease it is designed to prevent.◀

Vomiting after Nitrous Oxide Anesthesia

Vomiting occurred in 14.7% of 3000 consecutive outpatients to whom nitrous oxide was administered. Children were more prone to vomit than adults; the longer the anesthesia the higher the incidence of vomiting; and some types of operation carried a much higher vomiting rate than others. Vomiting rates for various types of operations were as follows: Removal of toenails or fingernails, 5.0%; incision of abscess, 6.3%; cauterizing of warts, 20.5%; reduction of fractures or dislocations, 28.6%; and miscellaneous procedures (only 40 cases), 32.5%. About one in every 18 outpatients undergoing an operation for an injury sustained the same day brought up a potentially dangerous quantity of vomitus, despite an interval of over 4 hours between the last meal and the anesthesia.

Bodman, R. I., et al., *Brit. M.J.*, 1:1327-1330, 1960.



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The buffered acid vaginal douche with low surface tension

The normal pH of the vagina (3-4.5) inhibits the growth of most pathogens, but menstruation and vaginal infections may cause the vaginal pH to rise . . . thus promoting greater growth of pathogens.

A simple acid douche will restore normal vaginal pH, but it is quickly neutralized by alkaline mucosa and pH rises again. Effective agents must be *buffered* to maintain the pH for several hours and be able to *penetrate* the folds of the vaginal mucosa for effective cleansing.

FORMULA: Ammonium Alum, Boric Acid, Phenol, Eucalyptol, Berberine, Menthol, Thymol and Methyl Salicylate.

The Doctor Builds His Estate

Prepared monthly for the readers of Clinical Medicine by the Research Department of Bache & Co., 36 Wall Street, New York 5.

►These monthly articles point out one method by which the physician may overcome the handicap imposed upon him by taxes on the bulk of his income at normal rates, as opposed to the capital gains tax open to many business men. One solution is systematic investment of current income in securities.◄

The advent of the New Year usually brings with it a good deal of reappraisal on the part of the individual investor of his financial holdings. There will be a good deal of talk about growth stocks, some dwelling on advanced products with little present application, but promising large future products; others stressing established concerns with an attractive past as well as an interesting future.

While the conservative investor planning his financial ventures may be influenced by some of the more romantic tales of possible future profits, we would suggest that he stick to those areas where protection of principal is more evident, where some amount of income is forthcoming, and where growth is assured by such fundamentals as population increase or proven market penetration.

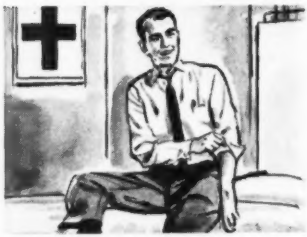
It is to this area of more assured growth we address ourselves this month, offering four companies which have established themselves in diverse fields, which have bucked the competition and come out ahead, and which are now logical vehicles for investors seeking growth.

Harvey Aluminum

Our first company is Harvey Aluminum which, at the present time, represents about the only real bright spot in the domestic aluminum industry. The present decline in economic activity and the excess supply of aluminum in the industry have not prevented Harvey from running its











THE HEMATINIC WITH BUILT-IN NUTRITIONAL SUPPORT...

facilities at capacity—three shifts per day, six days a week. For the year ended September 30, 1960, earnings reached $1.05 per share versus $0.94 in 1959, while sales volume held about level with the preceding year. Sales could not have shown an increase, since Harvey was already operating at capacity, but by concentrating on a better product mix the company was able to widen profit margins.

Basically a small company, Harvey is flexible, able to sell only those mill products where profits are best. The larger companies, such as Alcoa, Kaiser, and Reynolds Metals, must sell a broad product line in order just to try and chew up some of their excess capacity.

The outlook for the 1961 fiscal year continues to appear promising. With newly expanded facilities now being started up and an additional 15,000 tons of primary metal now becoming available, we anticipate earnings approaching $1.50 per share. With the absorption of start-up expenses during the company's first half, we estimate earnings of only $0.50-$0.60 per share, with the greatest increase in earnings coming during the latter part of the 1961 fiscal year. These projections are, of course, based on the present level of economic activity. The present inventory position of most end users of aluminum is known to be low, so a pick-up in inventory purchasing, followed by even a moderate increase in the economy, would thus result in even higher earnings. The long-term outlook is even more promising. Completion of the company's long-range expansion plans by 1964 could result in an estimated earnings level of approximately $4.50 per share.

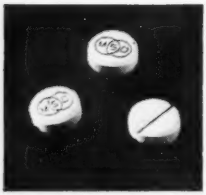
Harvey, as a producer of primary aluminum, was brought into being by the government-sponsored expansion program in 1955. Under this program, Harvey began construction of its 60,000-ton reduction plant at The Dalles, Oregon. The proceeds ($15.7 million) from the public offering of 750,000 shares of class "A" common in June, 1960, have been used to increase the company's reduction capacity by 15,000 tons to 75,000 tons of primary aluminum and to increase the rated fabricating capacity from 30,000 tons to approximately 60,000 tons. The company's longer-range programs call for the construction of a 60,000-ton rolling mill and a 150,000-ton (or more) alumina plant before the end of 1963. These facilities will cost the company approximately $60 million. Additional plans are now already in the works for an additional 75,000 tons of primary capacity.

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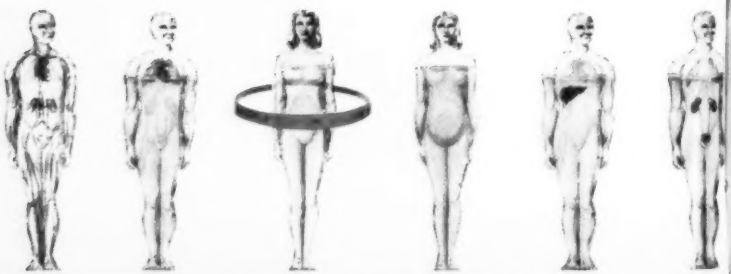
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Harvey holds options on bauxite properties in Jamaica and British Guiana, and is also negotiating with producers of bauxite for possible long-term supply contracts. Such a step would eventually establish the company as the sixth integrated aluminum producer in North America.

To accomplish this task ahead, additional outside financing will be required. The exact route to be taken has yet to be announced. However, we do not anticipate any dilution of common equity because of a management philosophy of earning as much as possible on the stockholders' investment.

As a result of the initial government backing, Harvey was granted a government-supply contract which gives the company the right to "put" to the government 270,000 tons, or 54,000 tons of aluminum per year for a five-year period. (The government also has the right to purchase up to 54,000 tons each year, but because of the huge stockpile no such request by the government is expected.) This contract will expire October 31, 1963. Thus, Harvey is unique in the industry in that it has been operating at capacity since 1958 and at the end of this year will still be guaranteed an operating rate of at least 72%. This by no means assumes the company will ship 54,000 tons of aluminum to the stockpile. Only 19,463 tons of primary were "put" in 1959 and about the same during 1960. With three years to develop commercial outlets, these shipments should decline to a nominal percentage of the total shipments.

Although all earnings figures above are based on the combined 4,750,000 shares outstanding, the dividend of $1.00 is being paid only on the 750,000 class "A" stock held by the public. The remaining 4 million shares of class "B" are owned by the Harvey family. While the class "B" stock is convertible into class "A" at any time at the option of the owners, we do not anticipate any conversion until earnings reach at least a $4.00 per share level, since the family is not likely to want to jeopardize the stock's investment status by placing the dividend in jeopardy. Based on the present market value, the holders of class "A" stock receive a yield of approximately 4%. This compares to less than a 2% return on other aluminum shares.

Harvey is also a major primary producer of such space and atomic age metals as titanium and zirconium, which in 1959 amounted to 7% of gross sales or $4.4 million. The present backlog of these metals is now in

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Price (approx.) 27	Capitalization 4/16/60
Dividend $1.00*	Long-Term Debt $34,650,000
Yield 3.7%	Common Stock
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	Common Stock
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*Paid only on 750,000 shares of Class A stock
†Class B controlled by Harvey family

excess of $12 million, with a more than doubling in volume expected by 1965. Compared to aluminum, this business is much more profitable per dollar of unit sales.

Our studies of the aluminum industry have shown no change in the basic underlying reasons for past growth. There appears to be little in the way of market saturation, no unfavorable price relationship with competitive materials, or any undesirable physical qualities of the metal itself to restrict further growth. Because of impending breakthroughs into volume markets, such as automotive, construction and cans, we see no reason for any shrinking of the 10% growth rate in consumption of aluminum evident since 1909. Based on this growth rate, we envision that a balance in the supply-demand equation will occur by 1963.

Against such a background, we see that Harvey Aluminum has a secure position in the industry future. The company is in the embryonic stage of becoming a fully integrated aluminum producer. Right now Harvey is in the same stage of development as were Kaiser Aluminum and Reynolds Metals during 1946-50. Between now and 1963, Harvey has a basic underlying market—the government. With its newly installed captive fabricating facilities, such a market will begin to play only a minor role as commercial outlets are built up. Harvey's production facilities are new and operations can be considered among the most modern, efficient, and low cost in the aluminum industry today. Even when adsorbing the cost of transportation to eastern markets, Harvey can meet competition on even ground. Further integration will also help to improve the company's competitive niche in the industry.

All things considered, based on our estimates of what Harvey Aluminum can earn during this period of economic adjust-

ment and after completion of long-range plans, the shares appear soundly situated for both intermediate and long-term gain possibilities.

James B. Beam Distilling Corp.

Our second situation is James B. Beam Distilling Corp. Jim Beam Bourbon was a brand name familiar to many of our nation's founding fathers. While known for quality since 1795, the company concerns us only since 1947 when present management took over and launched it on the road to spectacular success. Profits were made in 1955 when the liquor laid down in 1947 had aged long enough to be extensively marketed on a national scale. Since that time, sales have doubled to almost $80 million and earnings have jumped 136% to $2.95 per share for the year ending June, 1960.

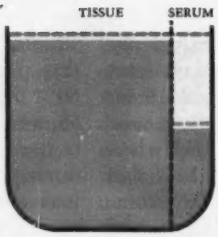
During the five-year period, profit margins before taxes increased from 9.5% to 11.5% and return on stockholders' equity averaged 23.4%. Present estimates are for net of approximately $3.15-$3.25 for fiscal 1961. At a price of less than 10 times anticipated earnings, we feel the shares are distinctly undervalued and attractive for capital gains. Profits have scored an average increase of 16.7% annually since 1950 and with a projected 10% compounded annual gain to 1965 in view, an upward revaluation of the multiple is called for.

While the distilling industry in the past decade has suffered from overcapacity, excessive taxes, the ill-effects of bootlegging and an almost static total volume, James B. Beam's sales and earnings have managed to outpace the industry average and most companies within it. The most marked example of this progress is seen in Beam's 60% increase in sales from 1955-59, while total whiskey consumption increased only about 10% during the same period. The outlook for the industry is brighter now than it has been in several years because of the continually rising personal income, steadily increasing leisure time and the growth of population, particularly in those age segments where the heaviest drinking occurs. With encouraging industry prospects, Beam's future growth seems assured, particularly since the nature of its business allows it to concentrate on its main product, bourbon, with which it is making inroads into the liquor market.

Distillers say total industry volume approached $5.5 billion in 1960, exceeding the all-time 1946 high of $5.1 billion. Much of the recent gain has come from

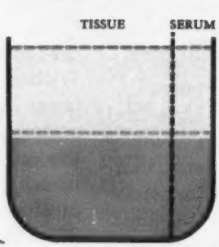
how MER/29 differs from other cholesterol-lowering measures...

effect on body pool of cholesterol



OTHER MEASURES

There is no evidence that tissue cholesterol is reduced even in the face of serum cholesterol reduction.



MER/29

Studies in patients have demonstrated a reduction of approximately 40% of *tissue* cholesterol, as well as a significant reduction of the *total* sterol pool.

- ...the first cholesterol-lowering agent to inhibit the formation of cholesterol within the body, reducing both tissue and serum cholesterol
- ...the only specific cholesterol-lowering agent: no demonstrable interference with other vital biochemical processes reported to date; toleration and absence of toxicity established by more than 2 years of clinical investigation
- ...convenient dosage: one 250 mg. capsule daily before breakfast

and how these differences can benefit your patients

particularly those with high cholesterol levels, coronary artery disease, and generalized atherosclerosis

MER/29 REDUCES CHOLESTEROL IN 8 OUT OF 10 PATIENTS: MER/29 reduces both serum and tissue cholesterol, *irrespective of diet.* Although some physicians prefer to use MER/29 in conjunction with controlled diets, cholesterol can be reduced successfully without such limitation.

CONCURRENT BENEFITS REPORTED IN SOME PATIENTS: In angina patients, some of the concurrent benefits reported include decreased incidence and severity of attacks, improved ECG patterns, diminished nitroglycerin dependence, and increased sense of well-being.

DIRECT, SPECIFIC CHOLESTEROL-LOWERING ACTION WITH MER/29: Some agents used to reduce cholesterol have other important primary effects—such as hormonal or vasodilator action. The primary, the *only* known function of MER/29 is to reduce cholesterol.

MER/29 HAS PRODUCED FEW SIDE EFFECTS, NO TOXICITY: Patients have been treated with MER/29 for continuous periods up to 19 months. In no case has there been evidence of serious toxic effects on the function of any vital organ or system. Side effects (nausea, headache, dermatitis) are rare and have usually been associated with dosages greater than those recommended for effective therapy. MER/29 is compatible with other cardiovascular therapies. It can be used along with measures which control anxiety, hypertension, obesity, and other conditions associated with cardiovascular disorders. These include nitroglycerin and PETN, and there have been no reports to date of incompatibility with anticoagulants.

CAUTION: Since long-term MER/29 therapy may be necessary, periodic examinations, including liver-function tests, are desirable. Also, since MER/29 inhibits cholesterol biosynthesis, and cholesterol plays an important role in the development of the fetus, the drug is contraindicated in pregnancy.

SUPPLIED: Bottles of 30 pearl gray capsules.

Complete bibliography and product information available on request.

MER/29

(triparanol)

Merrell SINCE 1828

The Wm. S. Merrell Company
Division of Richardson-Merrell Inc.
Cincinnati, Ohio • Weston, Ontario

Mark: MER/29®

growth in bourbon sales, which immediately following the war accounted for only 25-30% of the total. Bourbon now accounts for approximately 50% of all the whiskey sold and is probably the fastest growing product in the industry. Cashing in on this growth, Beam maintains some 90% of its total production in bourbon. Its various brands are advertised on a national scale, and principal market areas are in the Midwest and West. In California, the number-one bourbon-drinking state, Jim Beam is the largest selling brand. The company has recently embarked on a large expansion program and has begun to extend its operations to the East and Southeast, where great growth potential lies. Early in 1959, the company began importing Gilbey's Scotch, and this addition to the line has become a successful contributor to earnings. Currently, scotch accounts for about one-half the remaining 10% volume, with vodka and various liqueurs making up the rest.

Sales for the first quarter of fiscal 1961 amounted to $19 million and earnings to 82¢ per share compared to sales of $16 million and earnings of 79¢ per share in the similar period of 1959. While this does not appear to be a very substantial increase, it must be noted that sales and earnings in the 1959 first quarter were inordinately high because of anticipation buying prior to the imposition of state taxes in Illinois and Minnesota and large initial shipments to Oklahoma which had legalized the sale of alcohol for the first time. Second quarter sales are breaking records, sparked by Beam's aggressive promotional campaigns, and the heavy emphasis placed on attractive bottling and packaging techniques. Management is thus optimistic that the fiscal 196 profits figure could approach $3.25 per share.

Beam has a strong financial condition and current assets at the end of June, 1960 were 4 times current liabilities. Long-term debt totals $11.6 millio and no new financing is in view Dividends to date have been meager, since the company has retained the bulk of its earning in order to finance the rapid expansion in distilling and storag capacity. Last year the payou was 30¢ plus 4% stock. Whil an immediate increase is no anticipated, liberalization of the dividend policy is not unlikel as higher earnings levels ar reached. There are currently 1 460,512 shares outstanding wit options to buy about 40,000 addi tional shares. About 57% of th stock is closely held.

With good future industry gains in view (and particularly

JAMES B. BEAM DISTILLING CORP.

Price (approx.) 32½	Capitalization (7/1/60)
Dividend .....30¢, 4% stock	Long-Term Debt $11,580,000
Yield 0.94%	Common Stock .....1,460,512 shs.
Traded .....Over-The-Counter	

fine growth expected for bourbon) and with young aggressive and capable management, James B. Beam's future expansion in the industry seems assured. We think the shares are a good value here and an attractive vehicle for those investors seeking substantial long-term capital gains.

Mattel Inc.

Our third company is Mattel Inc., a major producer of toys. The company was incorporated in 1948 as a successor to a partnership which had been engaged in the toy business since 1945. In 1948, the company developed a line of musical toys. These toys contained a mechanical music box and in succeeding years a wide variety of toys has been developed by the company through the use of this music box principle. Until 1955, the company was known primarily for its musical and mechanical toys and the sales of these toys continue to represent an important part of the company's business. However, the scope of the company's business was broadened in 1955 when it introduced its first line of toy guns. Since then a number of other toy guns and accessories have been successfully introduced to the market. In 1959, the company entered the doll business and in 1960 broadened this line. Although it is only two years since the introduction of the company's first doll product, Mattel believes sales are already more than anyone else's in this segment of the industry. The company stresses quality products and, as previously mentioned, new ideas.

Mattel designs, assembles, manufactures and markets a wide variety of toys sold under the trade name of "Mattel." Over 80% of its sales volume is handled through manufacturers' representatives, who sell to wholesale and retail outlets. Direct sales are made by the company's own sales staff to national chain stores, mail-order houses and other nation-wide distributors. The company's toy guns include a variety of rifles and pistols. Also included in the product line is a wide variety of musical toys which incorporate a patented

mechanical musical unit. The company's newest area in the toy industry is that of manufacturing dolls. One product, which was first offered in 1959, is a Teenage Fashion Model doll which is 11¼ inches tall and is designed to create a realistic appearance of a teenage girl. An extensive wardrobe of doll clothing is sold for use with the doll.

The past record of the company has been exceptional even when compared to others in the industry, which, as a whole, has exhibited above-average growth.

During the five-year period ended February, 1960, sales nearly tripled to $18.4 million from the $6.2 million recorded at the beginning of this period. What is more important is that the gross profit margin and the percentage of sales carried down to net have increased in each of these five years. Earnings during the past fiscal year reached $0.99 per share, up from $0.03 reported only five years earlier. This growth in earnings has been recorded in the face of the high cost of a tremendous expansion program by Mattel.

The toy industry is highly seasonal, as are the operations of Mattel. Shipments during the first six months of the calendar year are considerably less than shipments during the last half of the year, while substantial expenses are incurred during such months in anticipation of future sales. Net losses can usually be expected during the first several months in each fiscal year and until toys are shipped in quantity to customers. The company, however, is attempting to partially offset this seasonal pattern.

Up until mid-December, 1960, shipments were running 20-25% ahead of a year ago. Although final figures are not yet available, we anticipate that shipments for the full year were up by about that amount despite an adverse trend of shipments in the industry. At this point, it is difficult to determine the exact increase in net income due to several factors. Among them are the inventory position of middlemen and retailers, the timing and shipment of replacement orders. However, we believe earnings could reach the $1.10-$1.15 level.

The company's inventory position at the present time is very good. Several of the company's product lines are completely sold out. The over-all financial condition is considered favorable. Dividends are currently being paid on a 15¢ quarterly basis. A possibility of a dividend increase will depend on the extent of the increase in earnings and the cash requirements of the company during the next fiscal year.

"It is our clinical impression that Trancopal is the most effective oral skeletal muscle relaxant and mild tranquilizer currently available," concludes Kearney,[3] who obtained good to excellent results with Trancopal in 20 of 27 patients in tension states. Lichtman[2] found that Trancopal produced good to excellent results in 323 of 342 patients in anxiety and tension states. Ganz administered Trancopal to 100 apprehensive patients and reported "... good to very effective results in all cases in lessening the apprehension, tension and amount of complaining."[4]

Comments after clinical use of *Trancopal* in anxiety and tension

Trancopal "... is the most promising muscle relaxant presently available. Its outstanding characteristics are safety, excellent tolerance and potency."[5]

"... of 350 patients who manifested symptoms of anxiety, restlessness and irritability secondary to an allergic disorder.... a large proportion ... were well controlled by the drug [Trancopal]. In view of the beneficial effects observed in this group of patients, we are continuing the use of chlormezanone [Trancopal] as an adjunct in the management of such patients."[5]

References: 1. Lichtman, A. L.: *Kentucky Acad. Gen. Pract. J.* 4:28, Oct., 1958. 2. Lichtman, A. L.: Scientific Exhibit, Meeting of the International College of Surgeons, Miami Beach, Fla., Jan. 4-7, 1959. 3. Kearney, R. D.: *Current Therap. Res.* 2:127, April, 1960. 4. Ganz, S. E.: *J. Indiana M. A.* 52:1134, July, 1959. 5. Cohen, A. I.: *Current Therap. Res.* 2:374, Aug., 1960.

Winthrop LABORATORIES New York 18, N. Y.

TRANCOPAL (BRAND OF CHLORMEZANONE) AND CAPLETS, TRADEMARKS REG. U. S. PAT. OFF. 1033M

MATTEL INC.

Price (Approx.)	15⅜
Dividend	$0.60
Yield	3.9%
Traded	Over-The-Counter

Capitalization	
Long-Term Debt	$1,753,000
Common Stock	300,000 shs.
Class "B" Common Stock	750,000 shs.*

*Convertible on a share-for-share basis into common after May 31, 1961.

The company in recent years accelerated its advertising program with approximately $1.5 million spent on advertising in the fiscal year ended February 27, 1960, and the budget for the fiscal year now ending was in the neighborhood of $2.2 million. The company believes that they are the only toy concern with prime Class-A television time on a 52-weeks-a-year nationwide basis. ("Matty's Funnies"). This program has tended to keep the name of Mattel toys in front of the buying public and, to some degree, level off sales during the year.

Mattel is aggressively seeking acquisitions within the toy and game realm so that any new products would complement their present production and could be easily integrated into their operations. Expansion of the company is also coming from within. To point this out and to exemplify the rapid growth of Mattel, it is only necessary to note that although the company recently moved into its expanded quarters in a 250,000 square-foot building, facilities are already not enough for present requirements and the company has now arranged for the building of a 100,000 square-foot facility which is presently under construction.

Mattel is an "idea" company which is important in a competitive industry such as the toy industry. The company has followed a policy of developing things like the talking mechanism, building such devices and then developing new products to fit the mechanism. This is but one of the factors behind Mattel's success.

American Machine & Foundry

Our fourth and last company for perusal is American Machine & Foundry, a company which has been an outstanding market performer of late and which appears destined to turn in an equally impressive performance in the years ahead.

The impact of the automatic pinspotting business which has exhibited such marked growth

during the last 10 years is now exerting upward pressure on net income in increasing proportions. As a result, the company is in the comfortable position of still being slated to collect the bulk of revenues on the balance of some 68,000 estimated to be outstanding by the end of this year.

For 1960, it is anticipated that sales and profits reached a new record, rising about 16½% and 20%, respectively, over 1959. This would mean sales of about $330 million and earnings of about $23 million, or about $3.10-$3.25 per share, against $2.52 in 1959. For 1961, earnings should rise to at least $3.50 with gains of 15% a year likely in the years ahead. Company directors recently recommended a 2-for-1 stock split and a dividend increase from the current $1.60 to $1.80.

Despite the heavy emphasis placed on its automatic pinspotting line, American Machine & Foundry is a well-diversified enterprise manufacturing equipment for the tobacco, electrical, food processing, apparel, and water treatment industries. During 1959 about 80% of revenues came from sales of equipment and services other than rentals. These activities broke down as follows: recreation 42%; industrial sales, 37%; defense items, 21%. Rentals, which account for some 20% of total revenues, were comprised chiefly of bowling equipment. These latter revenues are of course far more profitable than the other lines, since they are a continuous recovery of already capitalized or expensed costs.

The key to the case for AMF's growth hinges upon these rentals since this is income we can count on in the foreseeable future whether "saturation" has a marked effect on the industry's sales or not. However, the rapid growth in automatic installations to date has actually spurred the building of new lanes, so that we are in fact optimistic about the future of new installations. Nevertheless, rentals are slowly beginning to have a greater impact upon total revenues and since they are a more profitable source of income in any given year, their impact upon profits is becoming greater.

Other plus factors include heavy depreciation charges which are creating a substantial cash flow for AMF and the substantial stake the company has in areas other than bowling.

In the recreational field, AMF produces the Voit line of sporting goods, the Roadmaster and Shelby line of bicycles and a large line of children's tricycles, tractors and toy cars. Voit, which

AMERICAN MACHINE & FOUNDRY

Price	89
Dividend	$1.60
Yield	1.8%
Traded	N.Y.S.E.

Capitalization	
Long-Term Debt	$91,705,000
Conv. Deb. 5%	3,196,000
$3.90 pfd. ($100 par)	16,596
Common ($3.50 par)	7,741,556

has been showing excellent growth, has just taken on the responsibility of stepping up sales for AMF's auxiliary bowling equipment such as shoes and balls under its own highly regarded name. In addition, the company acquired Ben Hogan golf, which broadens its over-all position in the recreational field.

Industrial and electrical products are, of course, a significant factor. Some of the more important and interesting products include cigarette-making machinery which enjoys a rather steady demand; food packaging and handling equipment including an automatic system for continuously making bakery dough and other automation products to serve industry's demand for modern automated equipment.

Finally, a substantial interest in defense items rounds out this diverse company's product line. AMF, which is an important factor in the atomic reactor field, has also moved ahead in the construction and missile launching sites. These areas, which account for about $49-$50 million in sales and a smaller rate of profit at present, offer opportunities for considerable growth in the years ahead. For example, in 1961 defense contracts should account for about $80-$85 million and a proportionately larger profit.

For 1961, therefore, the overall outlook is exceedingly bright with bowling revenues growing, recreational activities and industrial products moving up moderately and defense business showing excellent gains. Profits per share should then be safely projected at this early stage at more than $3.50 per share net after taxes. Based on these assumptions, coupled with the expectations of continued gains in subsequent years, we are recommending the shares of American Machine & Foundry for those investors seeking long-term growth.◄

The Doctor and His Federal Income Tax

Prepared monthly for the readers of Clinical Medicine by Sydney Prerau, Director, the J. K. Lasser Tax Institute, Larchmont, New York

►*Leasing vs. purchasing of medical equipment, furniture, and cars.*◄

Doctors, like all business men, are being solicited these days with proposals for leasing equipment instead of purchasing. The innovation is based upon the savings in taxes available by leasing in contrast to buying.

Professional equipment or furnishings purchased for the practice are entitled to be depreciated. That is, assets used in business are ordinary and necessary expenses of the business. As such, they are deductible. But the equipment has an expected life in the business of more than one year. Hence, the law demands that the deductible cost of the asset be spread over its useable life. This spread-out is depreciation.

The deduction for depreciation is wrapped in many technicalities. And to support the deduction, a fairly accurate set of records should be maintained. For many doctors this presents difficulties. Because of this, the appeal of leasing equipment, furniture and automobiles for his practice is alluring.

Leasing does remove the task of record-keeping. The bona fide lease payments are deductible in full when the asset is used completely in the practice. Where an automobile is used partly for the practice and partly for personal use, the percentage allocation on the annual lease payments quickly gives the amount deductible. Likewise, eliminated by leasing is the chronic dispute as to whether or not the life expectancy of the asset determined by the doctor on his return will meet with the approval of the examining Revenue agent. In addition, you may also get these advantages:

1. Capital freed from the down payment can be invested profitably for other professional needs. Incidentally, the doctor's credit

a nausea-free pregnancy
is every woman's right

BONADOXIN

is right for every woman

stops morning sickness in 94%



Bonadoxin stops morning sickness often with just 1 tablet at bedtime.

Bonadoxin stops morning sickness and treats a possible specific cause—pyridoxine deficiency.

Bonadoxin stops morning sickness without the unpredictability of timed-release formulations.

Bonadoxin stops morning sickness without phenothiazine risks.

EACH TINY BONADOXIN TABLET CONTAINS: Meclizine HCl (25 mg.) for antinauseant action, Pyridoxine HCl (50 mg.) for metabolic replacement. USUAL DOSE: One tablet at bedtime; severe cases may require another tablet on arising. SUPPLY: Bottles of 25 and 100 tablets. ■ Bonadoxin also effectively relieves nausea and vomiting associated with radiation sickness, Meniere's syndrome, labyrinthitis, and motion sickness. Also useful in postoperative nausea and vomiting. ■ Bibliography on request. ■ For infant colic, Bonadoxin Drops. Each cc. contains: Meclizine 8.33 mg./Pyridoxine 16.67 mg. ■ NOTE: The incidence of undesirable side reactions is low. There are no known contraindications to Bonadoxin therapy. Although the incidence of drowsiness in the adult is very low, the physician should alert the patient to the possibility of its occurrence.

*and...when your OB patient needs the best in prenatal vitamin-mineral supplementation...*OBRON®

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Science for the World's Well-Being™

position is better because he shows no debt financing of new equipment.

2. The new equipment may be of a highly technical nature requiring frequent adjustments or repairs that will be borne by the lessor. If the doctor had to assume this expense, the true cost of the equipment may come to more than he had originally intended to pay.

3. Leasing arrangements shift to the lessor the risks of obsolescence arising from new inventions, changing economic conditions, or excessive use. And because he is a dealer in equipment, he is in a better position to dispose of it than the doctor would be as the outright owner.

4. Leasing arrangements can fit short-range needs — particularly when the doctor is in doubt as to the long-range potentialities of the specific equipment. A short-term lease can protect him from the risk of not being able to adapt the equipment to new and unforeseeable situations.

If the doctor does decide to lease, a few words of warning are necessary. The danger exists that any lease which provides for high rental deductions in earlier years and then permits continued use of the equipment at a reduced cost with an option to buy at a low price, is vulnerable to Treasury attack. The Treasury suspects that many lease arrangements are disguised purchases through which the "buyer" is attempting to deduct his purchase price as rent. In such a situation, it may try to disallow the rent deduction. However, it agrees that there is a leasing where a contract calls for payments based on an hourly, daily or weekly rate. But even here the payments must not be related to the normal purchase price. And the option price must be close to the equipment's fair market value on the option date.

►*No tax exemption for son during internship.*◄

Although internship is unquestionably part of a doctor's education, if he is employed as an intern in a hospital, he is no longer a dependent for income tax purposes. The Tax Court holds internship is not attendance as full-time student at an educational institution. Congress intended to exclude those engaged in on-the-job training, except for on-farm training.

►*Deduction allowed for cross-country trips to consult physician.*◄

Physicians are well aware that a patient is allowed a deduction for medical expenses for himself, his spouse, and his dependents. But how far can he travel in incurring medical care? Is he entitled to deduct the expenses of



In a series of 24 handicapped arthritics treated with dexamethasone for 8 to 16 months, ring size decreased consistently—objective evidence of antirheumatic effects which were maintained throughout the entire period of observation. Improvement was also noted in other antirheumatic indices, i. e., pain on motion, tenderness, swelling and morning stiffness.[1]

Supplied: as 0.75 mg. and 0.5 mg. scored, pentagon-shaped tablets in bottles of 100. Also available as Injection DECADRON Phosphate and new Elixir DECADRON. Additional information on DECADRON is available to physicians on request. DECADRON is a trademark of Merck & Co., Inc.

Reference: 1. Bunim, J. J., in Hollander, J. L.: Arthritis and Allied Conditions, ed. 6, Philadelphia, Lea & Febiger, 1960, p. 364.

MERCK SHARP & DOHME
Division of Merck & Co., INC., West Point, Pa.

Decadron

dexamethasone

TREATS MORE PATIENTS MORE EFFECTIVELY

annual cross-country trips to consult a particular doctor in whom he has confidence? A court says he may.

Mr Winderman is under the care of a New York internist. He moved to California and consulted another doctor there; however, he had more confidence in his New York doctor. His wife made periodic trips from California to New York for her business, and on three occasions, a year apart, he went to New York with her. While in New York, he consulted his physician, had a check-up, and took laboratory tests. He visited with former associates and relatives, but had no more social activity than a movie in New York. He deducted the expenses of these trips on his income tax returns. The Commissioner disallowed them but the Tax Court reversed and allowed the deductions. The Court held the trips were taken solely to consult the New York physician; that no rule requires Mr. Winderman to seek out a substitute physician in California when he has confidence in the New York doctor.

►*Tax advantages for doctors' associations or partnerships.*◄

Corporations, including associations and certain kinds of partnerships, pay on their income at a top rate of 52%. Generally, the corporation tax is imposed when the association has characteristics that more nearly resemble a corporation than a partnership. (A partnership, as such, pays no income tax.) Naturally, an association aware of the dangers of a corporation tax attempts to avoid setting itself up or conducting its activities in such a manner as to invite the imposition of the corporation income tax.

However, there is one considerable advantage of a partnership or association being considered a corporation, which may induce a doctor's partnership to welcome being tax-treated as a corporation.

A corporation can establish a pension or profit sharing plan for its employees, including officers. The contributions to the plan made by the corporation are deductible by it. Moreover, these contributions allocable to the several employees are not taxable as compensation income to them. Not being included in Social Security, physicians who also cannot incorporate under various state laws are especially deprived of these two methods of financially providing for retirement.

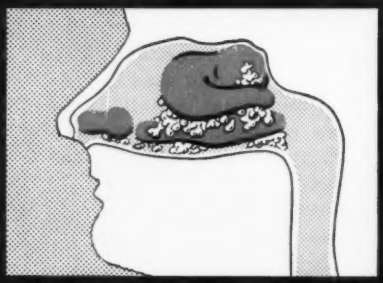
In the *Kintner* case, the Circuit Court of Appeals recently decided that although doctors may not incorporate under state law, an association of doctors

NEW

. . . in mucopurulent rhinitis of U.R.I., sinusitis, and allergy



one-two clear-through relief



Mucopurulent discharge and edema obstruct nasal passages in U.R.I., sinusitis and allergy.

TRYPP NOSE DROPS — mucolytic trypsin plus vasoconstricting phenylephrine — are inserted.

Each 8 cc. of TRYPP NOSE DROPS provides:

TRYPSIN . . . . . 7500 Units (3 m
PHENYLEPHRINE HCl . . . . 0.25% (20 m
with gelatin and other excipients and stabilizers

"a nasal medication containing trypsin in dition to a vasoconstrictor is more effect than other nasal preparations now available

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TRYPP

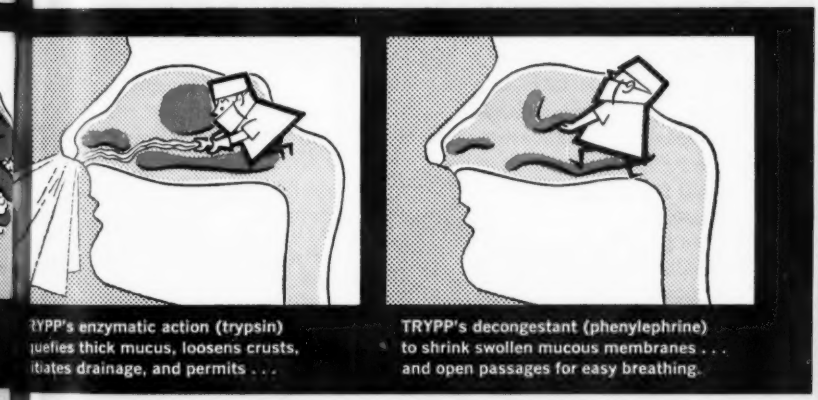
NOSE DROPS

mucolytic enzyme • decongestant

free, easy breathing is restored almost immediately by

1. trypsin's mucolytic action which thins and liquefies thick mucus and facilitates removal of crusts . . . to permit more normal aeration. This allows TRYPP's . . .

2. superior vasoconstrictor to reach and shrink swollen, congested membranes and initiate proper drainage.



ŁYPP's enzymatic action (trypsin)
ıuefies thick mucus, loosens crusts,
itiates drainage, and permits . . .

TRYPP's decongestant (phenylephrine)
to shrink swollen mucous membranes . . .
and open passages for easy breathing.

clinically proven in over 500 infants, children and adults[1,2] with upper respiratory infections and exacerbations of chronic sinusitis. TRYPP produced "an excellent response in 175 (87%), good results in 23 (11%), and poor or no response in 4 (2%)." Virtually no irritation or sensitivity.[1]

supplied: in 8 cc. package of powder, bottle of liquid diluent (mixed to give isotonic solution pH 6.5) and dropper.

1. Maffia, A. J., Levbarg, M., Perillo, L. A. and Greenberg, W.: Archives of Pediatrics 77:28, 1960.
2. Taterka, H. and Wasserman, E.: personal communication.

may nevertheless be treated as a corporation under the Internal Revenue Code. Following this decision, the Treasury issued final Regulations clarifying the distinction between associations and partnerships for tax purposes. These Regulations set forth the tests an association must meet to qualify as a Kintner-type association. Generally, the association must have members, business purposes and division of gains, continuity of life, centralization of management, limited liability of associates for association debts, and free transferability of interests. Although the tests and standards are set by the Internal Revenue Code, the local law is to be applied in determining such things as the interests of the members, their legal relationships with each other and the public.

If a physician is considering forming such an association, he should consult his lawyer. The appropriate provisions in the agreement he drafts can give the association tax advantages the law now offers for tax years after 1960.

►*Are business expense deductions adequately recorded and documented?*◄

The physician should not be lulled into a false sense of security by a "warning letter" from the Internal Revenue Service after an examination of his tax return about the standards it will apply to his future returns. He may still be hit with an additional tax on his current audit. He is required to keep "adequate records and supporting documents on travel, entertainment and similar expenses." If he fails to do so, he may receive a letter from the Service advising him how to correct his record keeping. He will also be warned that if he continues to keep inadequate records in future years, a more strict standard will be applied on the allowability of his business expense deductions than is being applied to his current examination. This does not mean tough standards won't be applied until after he gets the warning letter. It means only that *tougher* standards will be applied on examination of his deductions in future years.

►*Tax advantages of the short-term trust.*◄

The short-term trust is a means by which a doctor may transfer property for a specified period of time in order to shift income and the burden of tax on such income. It is generally used in family planning to transfer income to those in the lowest tax bracket. At the end of the period, the property returns to the grantor. (The person who transfers the property is called the

creator, settlor, or grantor. The person who receives the income is the beneficiary.) The income and deductions of the trust for tax purposes are similar to those of an individual.

The purpose of the Internal Revenue statutes on such trusts is to reach and tax the shifted income. Although income and the income tax shift from the doctor-grantor, the transfer is considered a gift. A tax gift may be imposed, depending on the amount of the transfer, the terms of the trust agreement and other considerations in the gift tax laws. When the grantor retains powers or benefits for himself which are prohibited by law, the income and tax may be chargeable to the grantor, even though the income is paid to the beneficiary.

A short-term trust is an inter-vivos trust, which means it operates during the life of the grantor. It must be irrevocable to be valid for tax savings. (The beneficiary or beneficiaries must be unconditionally named.) It must continue for at least 10 years (except when a charity is the beneficiary). It must be an effective gift for the benefit of another.

The 10-year rule may be met even though the term of the trust is not stated specifically to be for 10 years.

Examples

1. Dr. A. sets up a trust for his father, age 80, until his death or for 10 years, whichever is earlier. This trust is effective even though the father's life expectancy is less than 10 years. Income and tax shift until the father dies, or 10 years elapse—whichever happens first.

2. Dr. B. sets up a trust for his daughter, age 10, until she reaches 21. Income shifts—since the trust is to continue for at least 10 years. Note: In the event the daughter dies, the agreement might provide that the trust ends and the property returns to the doctor—with accumulated income going to the child's estate.

The purpose of the trust, to shift income, may be defeated if its term is extended during its operation. Assuming that Dr. B. above, when his daughter reaches 18 decides that the trust ought to continue until she reaches 25 instead of 21. If he extends the trust for four years, the extension is treated as the creation of a new trust. He has to pay the tax on the income for these four years, even though the income is paid to his daughter. To receive the advantage the law gives to the grantor of a short-term trust, the grantor must not retain the power to revoke the trust and get the property back in less than 10 years. He must not get

any of the income from the trust property during the term of the trust or at a future time. He must not provide for the payment of his insurance premiums out of income. (The one exception to this is in the case of a charitable beneficiary.)

The Short-Term Trust is Best Used When Earnings Are High

A doctor in his early fifties who contemplates retirement at 65 may be earning his highest income at this age. A physician at the peak of his success always faces the uncertainty of continued good health. This, then, is the time for him to take advantage of the tax saving offered him and his family by the short-term trust. If his income is $60,000 before taxes, he keeps about $4,000 out of the top $10,000 he earns. He has four children with no income of their own. He takes securities which yield him $10,000 a year and places them in four trusts, one for each child. Since they are in the lowest tax bracket, the tax on these trusts is very low. The saving to the family is approximately $4,000. If he can continue to set up such trusts each year for 10 years, he can save at least $40,000 in taxes for the benefit of his family on $100,000 of income over that period.

For the doctor with only $10,000 a year of income, a short-term trust to which 10%, or $1,000 is shifted, brings a saving of $198 a year. For a doctor with an income of $100,000, a shift of 10%, or $10,000 brings a saving of $5,100.

Securing the Future of a Minor Child

The young adult of today wants to be independent of his parents and to marry at an early age. This is not easy to do without some help. It takes quite a few years after college graduation for the young people to achieve financial independence, and what's more, to maintain themselves and their families in the manner to which they became accustomed. A parent can help without making the young adult feel that someone is "contributing" to his support. The parent can give the child the financial independence he will want by planning early. Setting up a short-term trust when the son is a youngster costs little. If $2,000 is transferred to a trust when the boy is 11 years old, it yields 5%, or about $100 each year. The trust provides that income is to be accumulated for 10 years and paid to the boy when he reaches 21. The trust income tax will be nothing to very little, over the 10 years. Retaining the $2,000 might mean an appreciable in-

crease in the father's income tax. If, for example, the father's income is $12,000 and the $100 a year is reinvested at around 5% for 10 years, the yield after taxes is $1,315. The yield to a trust on the same reinvestment will be $105 more. The added yield in percentage is 7.9%. If the father's income is $100,000, the same reinvestment over 10 years yields 21.3% more to the short-term trust than to the father.

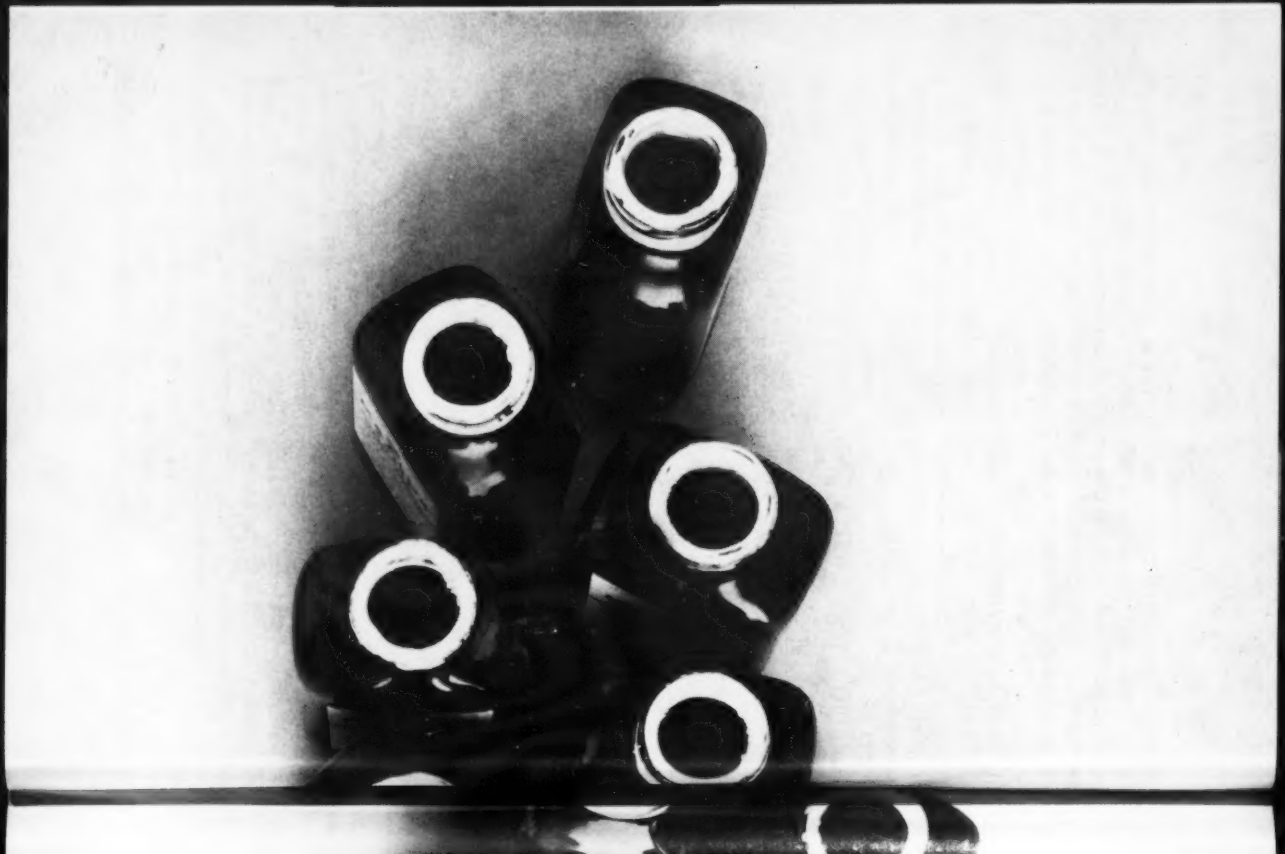
Securing an Educational Fund for a Child

Most parents today look forward to providing their children with a four-year college education and perhaps a graduate degree. The cost of tuition, board, lodging and incidental, but really necessary, expenses is today between $1,500 and $3,000 a year. The experts say costs are not leveling off. They will be higher five and 10 years from now.

Cannot a short-term trust be used effectively to shift income and tax from a parent to a trust, get a saving in taxes, and use the accumulated income for college expenses? The question is unsettled in most states. Under the law, a parent is legally obligated to support his child. In many states, the courts therefore hold that the use of a trust to discharge a legal obligation is not allowed, and the trust income is taxable to the parent. In Mississippi, for example, the highest court recently ruled that if the father's financial circumstances are such as to permit him to give his child a college education, he is legally obligated to do so. The trust here is not effective. However, it is possible that such a trust could be used for a college education in California, New York, and a half dozen other states. Note: A professional education presumably is not included in a parent's obligation. An effective trust might be set up for a son, the income to be used for costs of medical school or other graduate work after a college degree.

Helping to Finance a Married Child

The high cost of living today makes it not only comfortable but sometimes necessary for grown children to have financial assistance from parents. A doctor in the 50% tax bracket has an income of about $2,000 from certain investments. This will be cut to $1,000 after taxes. His son, married and with a family, is in a 22% tax bracket. He has just bought a home and needs more than his income to carry his obligations. He needs an additional $1,500 or $1,600 a year. The father sets up a short-term trust for his son. He transfers securities



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which yield $2,000 to the trust. In the son's bracket, this will leave $1,600 after taxes. The son will get $1,600 from securities which gave the father only $1,000—a tax saving and financial assistance to a family member.

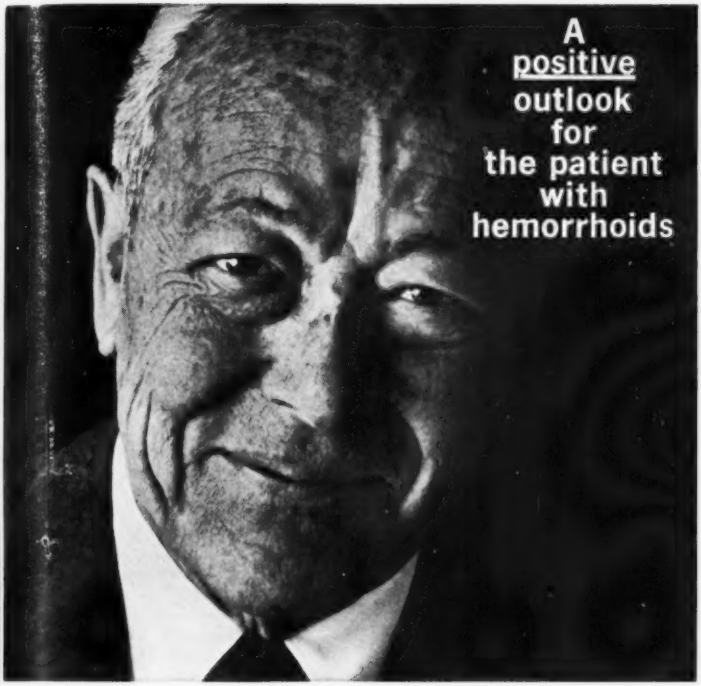
Providing for a Parent

The short-term trust may be used effectively to provide for the comfort of an aging parent. Assume that Dr. A's mother is not dependent upon him for support. She has an income of her own of about $1,500, $600 from earnings and $900 from Social Security. Dr. A. nevertheless sends her $100 each month from his investments. In order to earn this $1,200 each year, his investments have to yield him $2,400—because he is in a 50% tax bracket. He sets up a short-term trust for the benefit of his mother, for 10 years or until her death. He transfers to the trust securities that will yield $1,200 a year. The income is not accumulated and therefore not taxed to the trust. It is distributed to the mother and taxed to her. After allowable deductions and her exemption (over 65) her taxable income is under $400, and her tax about $75. For the ten years, it totals $750. On the other $1,200 of annual income from investments which Dr. A. retains, he has to pay a tax of 50%, or $600. The tax on the trust and on investments retained totals $675 a year, or $6,750 over the period of the trust. If Dr. A. had not created this trust, but continued to send his mother $1,200 a year for the 10 years out of his investments, he would have to pay a tax of $1,200 a year on the $2,400 investment yield. Over the 10 year period this is $12,000. By creating the trust, he and his mother have paid combined taxes of $6,750. This is a saving of $5,250—and financial assistance to a parent.

Note: There might not be such tax saving where a parent has no income of his own and the son is legally obligated to support him under state law. A moral obligation may be discharged by the creation of a short-term trust. A legal obligation may not.

Short-term Trust Family Tax Savings

The creation of such trust need not be for a parent, or a professional education fund for a child or for a married child's financial assistance. The trust is allowed to be set up under the law to effect tax savings for the donor while at the same time benefiting another. A doctor with an income of $100,000 who files a joint return with his wife, can keep only $250 out of $1,000 additional income he earns. If he



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TABLE 1

FAMILY SAVINGS THROUGH $1,000 SHORT-TERM TRUST

FATHER'S TAXABLE INCOME	FATHER COULD KEEP	TRUST KEEPS	FAMILY SAVING
$ 20,000	$ 620	$ 800	$ 180
40,000	440	800	360
50,000	410	800	390
60,000	380	800	420
80,000	310	800	490
120,000	220	800	580

shifts this additional income of $1,000 to a child in the lowest brackets, $800 out of that $1,000 is kept for the family instead of $250—a saving of $550 for the family (See Table 1).

SHORT-TERM TRUST BENEFITTING CHARITY

A short-term trust for the benefit of a charity must continue for two years, as distinguished from 10 years where an individual is the beneficiary. Assume a charitable-minded doctor gives the limit allowed each year to charity. Dr. Brown wants to give a charity a substantial contribution for the next two years to help a current fund-raising project. Because of his high tax bracket, and because of commitments already made, he cannot make direct contributions without cutting into what he has left for his needs. So he sets up a two-year short-term trust. While he gets no contribution deduction for the amount transferred to the trust because he has already reached the limit in charitable deductions, he avoids tax on the income going to the charity through the trust. He so gets a tax-saving—and the cost of his contribution is substantially reduced.

►*Reporting 1960 interest and dividend income.*◄

The Treasury crackdown on the widespread failure of taxpayers to report dividends and interest gathers steam. In the past, the Treasury has been issuing warnings. The doctor has probably received from his bank or the corporations in which he holds stock a polite notice about reporting his interest or dividends. But now the Treasury has taken two concrete steps to bring under tax the more than 4½ billion dollars of dividend and interest (1 billion of dividends and 3½ billion of interest) that taxpayers do not report:

1. It has enlarged its checking

procedures within all of its 61 districts beyond the former sample reviews. Information returns from banks and corporations will be matched against what taxpayers report on their returns. Flagrant omissions will be criminally prosecuted. Fourteen such cases recently involved imprisonment and fines ranging up to $20,000.

2. New legislation to require corporations to withhold tax on dividends is imminent. The Senate Finance Committee has ordered its staff to draft legislation that would require corporations to withhold tax on dividends. The chance of the bill becoming law will increase if the Treasury's stepped-up examinations and warnings fail to bring in more taxes on interest and dividends.

▶*Who? Why? and Where? Is this trip necessary?*◀

To be allowed, a deduction for business travel or entertainment expenses must be "ordinary and necessary." When the purpose behind entertaining other doctors and patients is reasonably related to a doctor's practice, he may spend as much or as little as he, in the exercise of his business judgment, sees fit. He may take a doctor who refers patients to him to a lecture or to dinner at the finest hotel in town. The Internal Revenue Service does not tell him how to spend his money or how much. It questions business deductions only to see that personal spending is not covered under a cloak of business expenses. But the dollar amount spent for legitimate professional entertainment will not be scrutinized. I.R.S. will not place ceilings upon what he or any other taxpayer considers proper for the entertainment of his sources of business.

The doctor can save time for himself or his accountant and be sure he gets his deduction by keeping some kind of tax diary. In this diary, each item of professional entertainment, whom you entertained, where you entertained them, and why should be recorded. This diary can serve the doctor well on an audit of his return as a substantiating record of the professional nature of the entertainment expenses he deducted.

A similar tax problem comes up with travel expense deductions. In many situations the Service does not question that the amount claimed was spent. What it scrutinizes is the relation of the expenditure to the business of the taxpayer. For example, a Pittsburgh attorney deducts travel expenses incurred in attending an International Law Association meeting in Yugoslavia. His practice was lo-

cal. He claims he joined the Association to make contacts, enhance his reputation and attract clients. He concedes he received no income or business, actual or potential as a result of attending the Yugoslavian conference. The Service concedes he spent the amount claimed but denied him the deduction and the Tax Court upheld it. Even though the trip was related to his business, he was not able to show any actual or potential income benefit. The trip was for personal reasons.

►*Loss on sale of residence disallowed, although profit anticipated on purchase.*◄

In choosing a family residence location, a doctor may decide upon a house because it is conveniently accessible to most of his patients—or to the hospital he serves. If in time the neighborhood changes or other reasons make a move desirable, and he has to sell his residence at a loss, he can't deduct this loss.

To be deductible under income tax law, the loss must occur in his profession (trade or business) or in a transaction "entered into for profit.'" It is natural to anticipate a profit on any sale. Buying and selling a residence is not part of a doctor's business under the Internal Revenue Code.

A substantial loss on the sale of a residence was recently disallowed to James E. Austin, the executive of a New York corporation. Mr. Austin lived within commuting distance of his firm's offices in New York City. The firm announced plans to move its executive offices upstate. Austin felt this move was not permanent, and was likely to be subject to change. However, it was advisable for him to live upstate to retain his position. He decided to look for property that would serve his family as a residence while he lived upstate and at the same time be a profitable investment. He bought a house and considerable land. He made capital improvements and renovations, costing $72,800. The family moved upstate. Then he found he had to be in the City office most of each week. Almost immediately after he bought the property and moved his family to it, he tried to sell. He was only able to sell part, and on this sustained a loss of over $30,000.

The Tax Court disallowed the loss he claimed as a business deduction. It held Mr. Austin bought the property primarily for residence purposes and secondarily for profit. This transaction is personal in nature. Mr. Austin never held himself out to be in the real estate business. Real estate is neither his trade or business. To be successful in his claim, Mr. Austin had to



Cartoon idea by pharmacist Emil Magdalener

Many of you may have seen a recent cartoon depicting a midnight scene in front of a pharmacy. A woman is pounding on the door and the pharmacist is leaning out the window of his apartment over the store. "Open up," shouts the woman. "My husband is sick and I need a stamp so I can send this prescription to the mail order house."

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Far-fetched? Perhaps, but there are those who would have us believe that our present system of drug distribution is inefficient and costly, and should be replaced by presumably more efficient and cheaper centralized or bureaucratic methods. Disregarding the probable political philosophy behind these suggestions, consider what a marvelously intricate and efficient system of drug distribution we have in this country. • From the laboratories of the manufacturers comes a steady stream of new and better drugs for your patients. Warehoused and stocked by drug wholesalers, these products are available in over 53,000 pharmacies scattered across the length and breadth of our land. And woe to the pharmacist who hasn't been provided with yesterday's laboratory discovery for your use in treating a patient today. • The economists speak of "utility of time" and "utility of place." We simply say that you can confidently prescribe *what* you choose, *when* it is needed, *wherever* your patient may be.

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show he sustained the loss in his business, or that he went into this transaction of buying real estate primarily for profit.

When the doctor uses part of his residence for his practice, he treats the sale as if he sold two separate pieces of property. He apportions the sales price and the tax cost or basis of the house between the office (business) and the residence (personal) portion. He deducts depreciation in computing his tax, from only the business part. If he sells at a gain, he does not pay tax on gain allocated to his residence portion of the house if his reinvestment in a new residence is at least equal to the selling price of the part of the old house allocated to his personal use. But he must buy and use the new house as his residence within one year before or after he sells the old one. If he builds a new residence, he must build and use it within one year before or 18 months after he sells the old one.

EXAMPLES

1. The doctor sells for $36,000 a three-story house that cost him $33,000. He uses two floors as his offices. He and his family use the third floor as their residence. On the office part, his depreciation is $4,400. Here's how he computes his gain, allocating ⅔ of the selling price and cost-basis to the business part and ⅓ to the personal part:

	Business	Personal
Sales price	$24,000	$12,000
Cost	$22,000	
Less: depreciation	4,400	
Tax cost or basis	17,600	11,000
Gain	$ 6,400	$ 1,000

He pays capital gains tax on the gain of $6,400. He does not pay tax on the gain of $1,000 if he invests at least $12,000 in a new residence within the times mentioned above. He also does not pay tax on the $1,000 if he buys a new house for both offices and his residence and the cost allocated to his residence use is at least $12,000.

2. Same facts as the example above except the selling price is $30,000. Here there is a gain of $2,400 ($20,000—$17,600) on the business part, and a loss of $1,000 on the residential part ($11,000—11,000). The $1,000 loss cannot be offset against the gain. Each is treated as a separate transaction. The loss is disallowed because it is a personal loss.◀

►Didrex Tablets *(Upjohn)*

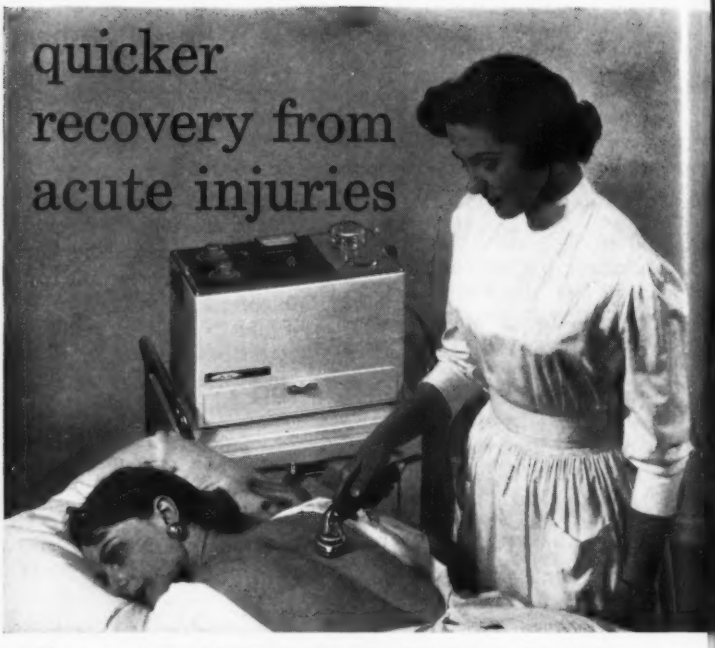
Each tablet contains 50 mg. of benzphetamine hydrochloride. *Indications:* For the control of simple exogenous obesity. It should be combined with dietary restriction. *Caution:* Use with caution in moderate or severe hypertension, thyrotoxicosis, acute coronary disease, or cardiac decompensation. *Dosage:* To be individualized according to patient's response. Suggested dosage is from ½ to one tablet, one to three times daily. *Supplied:* In bottles containing 100 or 500 tablets.

►Neo-Polycin Ophthalmic Solution *(Pitman-Moore)*

Each cc. contains neomycin sulfate, 2.85 mg. (neomycin base); polymixin B sulfate, 5000 units; and gramicidin, 0.02 mg. in a sterile isotonic solution. *Indications:* For prevention and treatment of ophthalmic infections caused by organisms sensitive to the antibiotics. May be used before and after ophthalmic surgery, including foreign body removal, to guard against bacterial infection. *Dosage:* One or two drops in the conjunctival sac of the affected eye every three or four hours. In acute infections more frequent dosage may be advisable, such as every 15 minutes or half hour. Do not touch the eye with the dropper. *Supplied:* In 10 cc. bottles with sterile dropper.

►Rectalad-Migraine *(Wampole)*

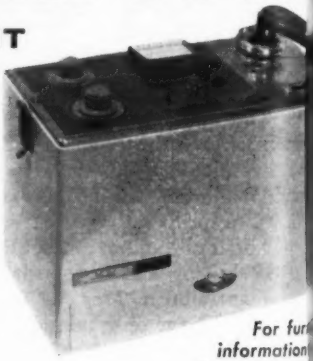
Each container of 2 cc. of solution contains 2.0 mg. of ergotamine tartrate, 25.0 mg. of caffeine, 0.4 mg. of scopolamine aminoxide and 200.0 mg. of chloral hydrate. *Indications:* For aborting the migraine headache at the first indication of an impending attack by absorption through the rectal mucosa of medication already in solution. *Contraindications:* Should not be used in the presence of peripheral vascular disease, coronary heart disease, hypertension, impaired renal or hepatic function, or pregnancy. *Dosage:* To be used at first indication of impending attack and can be repeated in one hour if required. Do not exceed three per day. *Supplied:* In single-unit 2 cc. plastic, disposable dispensers.



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►Ferro-Sequels Capsules *(Lederle)*

Each timed-release capsule contains 150 mg. of ferrous fumarate (equivalent to approximately 50 mg. of elemental iron) and 100 mg. of dioctyl sodium sulfosuccinate. *Indications:* For the prevention and treatment of hypochromic microcytic anemia due to iron deficiency. *Dosage:* To be individualized. *Supplied:* In bottles containing 30 tablets.

►Trinfagen *(Pitman-Moore)*

Multiple antigen fluid vaccine. Contains diphtheria toxoid, tetanus toxoid and poliomyelitic vaccine. The polio vaccine is prepared as an aqueous suspension of Types 1, 2 and 3 poliomyelitis virus. *Indications:* For recall injections in children over age five who have been basically immunized against tetanus, diphtheria, poliomyelitis, and pertussis. Does not contain pertussis antigen since children over age five are usually immune. May be used as basic immunization for younger children where the pertussis antigen is not needed or contraindicated. *Dosage:* To be administered in 1 cc. doses, subcutaneously or intramuscularly for primary immunization or booster injections. Dosage schedule for primary immunization should be three injections, each given four to six weeks apart, and a fourth injection at least seven months later. Supplied: In 5 cc. multiple-dose vials.

►Syntocinon Nasal Spray *(Sandoz)*

New dosage form. Each 1 cc. is equivalent to 40 U.S.P. units (40 International Units) of oxytocin, synthetic. *Indications:* For complications associated with lactation: Initial milk let-down, milk retention, incipient mastitis and impaired milk let-down. *Dosage:* To be individualized. *Supplied:* In 5 cc. plastic squeeze bottles.

►Triaminic Concentrate *(Dorsey)*

New pediatric oral dosage form. Available as phenylpropanolamine hydrochloride, 20 mg.; pheniramine maleate, 10 mg.; and pyrilamine maleate, 10 mg. *Indications:* For use in the relief of symptoms of the common cold and nasal allergies. *Dosage:* To be administered orally four times daily. For infants up to 15 pounds, one drop per two pounds of body weight. Children over 15 pounds, one drop per three pounds of body weight. *Supplied:* In 15 cc. dropper bottles especially calibrated to deliver 24 drops per ml.

►Trimagill Vaginal Inserts & Powder *(Massengill)*

Powder and inserts contain tartaric acid, citric acid, boric acid, dextrose, potassium bitartrate, potassium alum, and adhesives. *Indications:* For acidification of the vaginal tract in the treatment of Trichomonas vaginalis, Candida albicans (Monilia), Hemophilus vaginalis and nonspecific leukorrhea. *Dosage:* Powder: With the aid of a speculum, apply directly from insufflator bottle into vaginal vault every four to seven days for three to six treatments. Inserts: Instruct patient to insert one or two on retiring. *Supplied:* Powder, in 5 ounce plastic insufflator bottles. Inserts, in packages of 24.

►Furadantin Sodium *(Eaton)*

Each 20 cc. vial contains one adult dose of sterile crystals of nitrofurantoin sodium, delivering 180 mg. of nitrofurantoin. *Indications:* For the treatment of pyelonephritis, cystitis, and prostatitis when peroral administration of nitrofurantoin is not feasible; susceptible systemic bacterial infections, with the exception of bacteremias (septicemias) unless other therapy has failed. *Caution:* In the presence of impaired renal function, the drug should be employed cautiously. It is advisable to observe carefully Negroes and those with potential intrinsic abnormality of red blood cells sensitive to primaquine, and discontinue treatment if hemolysis appears. *Dosage:* In patients weighing over 120 pounds, 180 mg. of nitrofurantoin (initially dissolved in 15 cc. of 5% dextrose/or sterile water for injection) in 500 cc. of an intravenous fluid, administered twice daily by intravenous drip at the usual rate. The final solution yields 1 mg. of nitrofurantoin for each 2.8 cc. of solution. In patients weighing under 120 pounds, the dosage is 3 mg. per pound of body weight per day in two equal doses. *Supplied:* In sterile 20 cc. vials containing one adult dose of sterile crystals of nitrofurantoin sodium, delivering 180 mg. of nitrofurantoin.

►Natorexic Tablets *(Walker)*

Each tablet contains 25 mg. of diethylpropion plus added vitamins and minerals to provide comprehensive prenatal nutritional support. *Indications:* To control excessive weight gain during pregnancy and lactation and provide comprehensive prenatal nutritional support. *Dosage:* One tablet one hour before meals. If desired, a fourth tablets may be taken at mid-evening. *Supplied:* In bottles containing 100 tablets.



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►MSC Triaminic *(Dorsey)*

Composed of phenylpropanolamine hydrochloride, 50 mg.; pheniramine maleate, 25 mg.; pyrilamine maleate, 25 mg. and methscopolamine nitrate, 4 mg. *Indications:* To decongest and promote drainage of nasal and paranasal passages, and to prevent or arrest histamine-induced damage. Also to relieve exceptionally profuse nasal discharge or postnasal drip which requires more secretory control. *Dosage:* To be individualized. *Supplied:* In bottles containing 50 timed-release tablets.

►Roniacol Timespan Tablets *(Roche)*

New dosage form. Each timed-release tablet contains 150 mg. of *Roniacol,* to relieve the symptoms of certain circulatory disorders for a period of approximately 12 hours. *Indications:* For the treatment of peripheral vascular disease, including generalized arteriosclerosis, cold, aching extremities, night cramps, chilblains, intermittent claudication, diabetic endarteritis and vertigo due to impaired cerebral circulation. *Dosage:* One tablet twice daily is usually sufficient to maintain optimal therapeutic response. *Supplied:* In bottles containing 50 tablets.

►NaCLEX Tablets *(Robins)*

Each tablet contains 50 mg. of benzthiazide. *Indications:* To produce diuresis, weight loss, and symptomatic improvement in edema associated with congestive heart failure, cirrhosis of the liver, chronic renal diseases (including nephrosis), premenstrual tension, toxemia of pregnancy and obesity. *Dosage:* Varies, depending on the nature of the illness. *Supplied:* In bottles containing 100 or 500 tablets.

►Striatran Tablets *(Merck Sharp & Dohme)*

Each tablet contains 200 mg. of emylcamate. *Indications:* For relief of mild anxiety and tension. *Dosage:* One tablet three to four times daily, immediately before meals. *Supplied:* In bottles containing 100 tablets.

►Domoform Creme *(Dome*

Contains iodochlorhydroxyquin 3% in the *Acid Mantle* vehicle pH 5.6. *Indications:* For infected or eczematous skin conditions. *Dosage:* Apply a thin layer to affected area three or four times daily. *Caution:* May stain hair or clothing. Do not use if patient is sensitive to iodine. *Supplied:* In 1 ounce tubes or 1 pound jars.

book reviews

►Current Surgical Management II

by J. H. Mulholland, E. H. Ellison, and S. R. Friesen. W. B. Saunders Company, Philadelphia. 1960.

This volume is a continuation of the first volume on the same subject, wherein clinicians give their personal views about treatments which involve many controversial surgical subjects. Volumes of this nature serve the profession in proving that various therapeutic approaches have their faults and good points. The reader will find many important practical suggestions which he can employ daily in his clinical endeavors.

►Source Book of Medical History

by Logan Clendening, Dover Publications, Inc., New York. 1960. $2.75

The Clendening compilation includes famous works from the pens of Charcot, Galen, Pare, Virchow and many other medical genii. Many great discoveries flow from these highly fascinating collections.

►Biochemistry of Steroids

by E. Heftmann and E. Mosettig. Reinhold Publishing Corporation, New York. 1960. $6.90

Studies involving the steroids are becoming increasingly important. Here is a small volume which handles the major aspects of this subject in admirable fashion. It is recommended highly to those students and clinicians who are interested in the further development of this important subject.

►The Long Search for the Truth about Cancer

by Mark Boesch. G. P. Putnam's Sons, New York. 1960. $4.95

The author writes his own foreword, and in it he says that he advisedly takes some hard swipes at some segments of the medical profession for their conservatism. I do not find any information as to who Mark Boesch is, which omission reminds me of the epitaph which Peter Chamberlen, of obstetric forceps fame, wrote for himself:

> To tell his learning and his life to men
> Enough is said by "Here lies Chamberlen."

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►Predisposition to Post-Vaccinal Encephalitis

by E. J. W. Keuter. D. Van Nostrand Co., Inc., through Elsevier Publishing Company, Amsterdam. 1960. $9.50

Perhaps this volume is the most comprehensive work of its kind on this apparently rather rare complication which may follow vaccination. The major modern thoughts on this subject are discussed, and should be of considerable interest to pediatricians.

►Henry E. Sigerist on the Sociology of Medicine

edited by Milton I. Roemer, M.D., Director of Research, Sloan Institute of Hospital Administration, Cornell University; foreword by James M. Mackintosh, M.D., Formerly Dean, University of London School of Hygiene and Tropical Medicine. MD Publications, Inc., New York. 1960. $6.75

The five sections into which this work is divided are entitled: General Essays, Europe, America, Other Lands, and Special Topics. Among the chapters of special interest are those on the physician and his environment, trends toward socialized medicine, the medical student and the social problems confronting medicine today, socialized medicine, an introduction to the economics of medicine, and the place of the physician in modern society. Many will be interested to read about health work in the Soviet Union, about medical societies, past and present, about group health plans and medical care for all the people, and many other subjects of prime importance.

There will be general agreement with the sentence closing the foreword: "In his own sphere none has been more constructive than Sigerist, or exercised a greater influence on the keen thinkers of the rising generation."

►Classics of Medicine and Surgery

by C. N. B. Camac, Dover Publications, Inc., New York. 1960. $2.25

This paperback book contains such gems as Lister's Antiseptic Principle, Harvey's Motion of the Heart and Blood, and a host of other famous papers. The modest price of this booklet makes it possible for many students and physicians to own these historical gems which are medicine's heirlooms and which should be read carefully by every serious student of the healing arts.

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(1) Bernstein, A. & Simon, F. "The treatment of Obesity in patients with Cardiovascular Diseases" Presented at Am. Coll. of Angiology meeting; June 12, 1960.

(2) Plotz, M.: Modern Management of Obesity, J.A.M.A. 170:1513-1515 (July 25) 1959.

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